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Address.

MEMORIAL ADDRESS ON THE LIFE AND CHARACTER OF LAWSON TAIT.*

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CINCINNATI, OHIO.

> Death makes no conquest of this conqueror
> For now he lives in fame, though not in life.
> —*Shakspeare.*

It is eminently proper that a part of the proceedings of this meeting should be devoted to the memory of a deceased Honorary Fellow—Lawson Tait, who died at Llandudno, Wales, June 13, 1899.

This distinguished surgeon, the son of Archibald Campbell Tait, was born at Edinburgh, Scotland, May 1, 1845. His father was a guild brother of Heriot's Hospital, into which institution the son was admitted as a foundation scholar, at the early age of 7 years. In this humble institution he early showed those traits of mind which enabled him to win a scholarship in the University of Edinburgh, and which characterized his subsequent brilliant career. We are informed that he did not graduate at this latter institution, although he studied in the departments of both the arts and medicine. Those who were students with him in this great institution remember him as a lad of great aptitude, but with comparatively little continuity of application. He was fond of those diversions which appeal with such force to vigorous young manhood. As a consequence he found the prescribed tasks very irksome and the imposed discipline very annoying. He is reported as having been more intimately acquainted with the Proctor than with any other officer of the institution. But his expanding and virile mind could be no less active than his vigorous body. The themes which engaged his attention, however, were those which occurred out of the ordinary routine. The great work of the Darwins was then creating a storm-center in the scientific, to say nothing of the religious, world; and Huxley and Spencer were commanding alike the anathemas of the ecclesiastics and the plaudits of reactionary thinkers. It was to the latter class that young Tait belonged, and continued to belong during his whole life. His devotion to the new philosophy brought him into antagonism with the orthodox thought that then dominated, as it yet dominates, this great seat of learning. It was in these controversies that he developed and displayed much of that polemic tendency and forensic power which in subsequent years proved at once his strength and his weakness. But the nature of the subject that constituted the basis of these early controversies was such as to direct his attention to the more rational methods of study and investigation. Following the lead of Darwin he early learned to study things rather than words. There never was a time when he was not more attracted by an object itself than by the most artistic description of it. He early acquired the habit of translating words into ultimate conceptions—a habit which in subsequent years made him a severe and formidable critic, for loose thinkers and careless writers.

It was precisely this preliminary training that fitted young Tait for the most successful prosecution of his medical studies. His pupilage in the medical school was in the essentially didactic era of medical teaching. Learned lectures prepared entirely with reference to doctrine and diction were the dominant features of instruction. The laboratories with their heartless iconoclasm, scarcely yet had a footing. Personal authority was not yet dethroned. The dictum of the professor was yet accepted over and above demonstrated facts of contrary significance. Against this order of things young Tait, with great love for truth, but with no profound reverence for men, naturally found himself in revolt. In the medical school he was attracted and influenced by men who were already breaking away from the thraldom of tradition. Over and above the others of the class was the illustrious Sir James Y. Simpson, to whom the subject of our sketch sustained the relation of a special pupil and later that of assistant. He was also profoundly influenced by the teachings and the example of Syme, whose habits of cleanliness in his surgical work and whose results were in happy contrast with the methods and results of others connected with the Royal Infirmary. He was also an assistant to Sir Henry Littlejohn and took special instruction from Mackenzie Edwards. During this time he gave particular attention to the various biologic studies, and particularly to investigations by the microscope, an instrument, which, in the early sixties, did not occupy the prominence in scientific work that it does to-day. This early habit had a pronounced influence on his subsequent professional career, which really began at the early age of 22.

After taking his L.R.C.P. and his L.R.C.S., he left Edinburgh, in 1867, to accept the position of house surgeon to Wakefield Hospital. It was here that he did his first ovariotomy, July 29, 1868, in the earlier months of his twenty-fourth year. He did five other ovariotomies between that and 1870, when he removed to Birmingham. Although he had done six ovariotomies by the time he was 25, the fact does not seem to have turned his head in the direction of special work, for when he came to Birmingham he located in one of the suburbs and devoted himself to general practice. The year of his advent into the great midland metropolis was spent largely in preparing for and passing his English examinations. This year he took his M.R.C.S. Eng., and his F.R.C.S. Eng., and completed his Fellowship in the Royal College of Surgeons at Edinburgh.

At this time the young Scotch surgeon was very poor. It required but little persuasion to induce him to associate himself in office with Dr. Bell Fletcher, an established practitioner. He took this important step in 1871, and in doing so announced himself as a consulting surgeon. This in a young man of 26 required much courage, particularly in conservative England. Courage, however, was a quality in which Tait was never wanting. His self-assertion commanded recognition. The community began to estimate him as he estimated himself. He joined in a movement to establish a hospital for women—a movement which, in spite of the strong opposition of the conservative element, was crowned with success and Mr. Tait was elected to the honorary staff, a position which he retained during the succeeding twenty-two years; after which he was made consulting surgeon, a distinction which he held at the time of his death. His identification with this movement was the real commencement of a career as illustrious as any in the annals of surgery. The succeeding year (1872) he performed two operations of historic importance. February 2, he removed an ovary for suppurative disease, and on August 1 he extirpated the uterine appendages to arrest the growth of a bleeding myoma. This simple statement sounds commonplace enough to-day, when the first of the procedures is exemplified daily in almost every operating-room in the world, and when the other, after a considerable vogue, has been supplanted largely by other and more satisfactory methods. It should be remembered, however, that in that day neither operation had been done, and that their performance was looked on by the time-servers as the unwarranted exploit of surgical audacity. Criticism began to flow in from every side. The chorus of fault-finding was augmented by those who sought to stifle his evolutional teachings at the Midland Institute, at which he was lecturing on physiology and biology. But he never failed to give a Roland for an Oliver—often, be it said, when the Oliver was not worth it. To Mr. Tait, however, criticism was but a wholesome stimulus and antagonism but an incentive to further endeavor. Fired by a realizing sense of the importance of his new achievements, and spurred on by the animadversions of his adversaries, he wrote his famous and epoch-making thesis on "Diseases of the Ovaries," for which the British Medical Association voted him the Hastings Gold Medal for 1873. It was during this year that he did his first hysterectomy for myoma of the uterus, following, with but slight modification, the technic of Koeberlé. The next year—1874—he was instrumental in organizing the Birmingham Medical Institute, of which he became an original member. His activities of this sort, however, were not limited to the medical profession. He was interested in everything about him, but especially in art, the drama and politics. Despite his now rapidly developing work, despite the controversies to which it gave rise, and despite the antagonisms arising from his Darwinianism, which he continued to expound at the Institute, he sought further antagonisms by entering the political arena, although in a minor way. He was elected to the Town Council in 1876. While he was busy with all of these interests he was engaged also on work of a more enduring character. One was his now classic little work on "Hospital Mortality," which appeared early the next year. It was really his final and crushing manifesto in the long argument he had been conducting with the conservatives. No work of equal size ever produced a more profound impression on the profession of England. It was followed the same year by his little book on "Diseases of Women." This small volume came to your speaker when he was practicing his profession in an isolated village in a Western state. He had been taught to apply caustics, to replace the uterus, to adjust pessaries, and to do divers and sundry other things which, in the aggregate made up the gynecology of that period. He had faithfully followed the teachings of the day—and had become convinced of their futility. The first ray of light came to him in the little book from Birmingham—and the darkness began to dissipate. Never was a book studied with more zeal—a zeal which a few years later led him across the Atlantic to Birmingham to see somewhat of the new surgery at the hand of him who had fashioned it. But it is to him rather than to myself that I must devote my discourse. Never was a surgeon or a citizen in his early thirties busier than was Mr. Tait at this particular period. The year that he published his "Hospital Mortality" and his "Diseases of Women" witnessed his adoption of the practice of removing the uterine appendages for incurable diseases of the Fallopian tubes. He removed a hematosalpinx June 21, and made the profession familiar with its pathology. It was also about this time that the storm of antagonism against his Darwinianism broke out with renewed vigor, and ecclesiasticism exhausted itself in vituperation.

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*Delivered before the American Association of Obstetricians and Gynecologists, at Indianapolis, Ind., Sept. 20, 1899.

The next year—1878—witnessed his completion of a series of fifty ovariotomies, with nineteen deaths. This left him 13 per cent. for which to apologize; as the accepted inevitable mortality, as exemplified in the work of Sir Spencer Wells, was 25 per cent. But he was reasonably safe from criticism, for he had operated under the carbolic spray and in accordance with the canons of the then new Listerian gospel of surgery. Mr. Tait himself, however, was far from satisfied with either his results or the conditions under which he had secured them. He then and there expressed his doubts as to the efficiency of those procedures which in the aggregate were called "Listerism," but he at the same time seized on the central truth of the new surgery and proclaimed his belief in "scrupulous attention to cleanliness of every kind and in all directions." This was distinctly the beginning of "aseptic" as distinguished from "antiseptic" surgery and I believe this audience will bear me out in the declaration that while each has its place, the former rather than the latter is to-day the accepted method of procedure. At any rate, Mr. Tait, as was his wont, shaped his practice according to his convictions. He modified his technic in the direction of simplicity. One accessory after another was laid aside until a knife, scissors needles and thread, a few hemostatic forceps, some sponges and tap water were the essential constituents of his armamentarium. I shall never forget the contempt with which he alluded to the great parade of instruments in the operating-room of a distinguished Parisian surgeon, stating that it suggested an intention "to fight over again the battle of Waterloo."

It was with this simplified technic that he proceeded with his great work. It was during this year that he first opened the abdomen for the treatment of pelvic abscess. The next year—1879—fairly bristled with new achievements. He did his first cholecystotomy, and his explanation and defense of the operation marked the beginning of the rational surgery of the gall tract. This same year he removed the first pyosalpinx and the first hydrosalpinx in his practice, and again called attention to pathologic conditions that had been described a half century before by more than one writer. So strong had become the opposition to him by this time that it was quite fashionable, especially in London, to openly discredit everything that he said or did. A most distinguished metropolitan operator at this time openly expressed his doubts, not only as to the fact of Mr. Tait's newly-heralded operation, but also as to the very existence of the disease for which it was alleged to have been done. Mr. Tait, however, answered the criticism by exhibiting his specimens—and went on with his work. Within this busy twelve-month he described his flap-splitting operation for repair of the perineum, introduced his method for the reposition of the inverted uterus, developed his plan for the dilatation of the cervix by continuous elastic pressure—and not satisfied with this, he organized the Birmingham Natural History Society, publishing a valuable paper on the minute structure of the pitcher plants! He was also interesting himself in archeology, and published at different times articles on "Orientation of Churches," "Prehistoric Fortifications," "Monumental Brasses," and "Britain During the Stone Age."

The next decade opened on this resourceful man in the very maximum of vigor. His first work in the eighties was to introduce and establish the operation of hepatotomy—his cases rapidly multiplying until he was able to publish a series of ten, nine for hydatids and one for abscess. This report opened the eyes of the surgical world, but not more so than did another that he published during this year. This was his second series of fifty ovariotomies with only three deaths as against nineteen in his previous fifty. A drop in his own mortality from 38 to 6 per cent., a point 19 per cent. lower than that of Sir Spencer Wells, was an evidence of achievement that required no wordy proclamation. What was more, these results had been obtained by Taitonian rather than Listerian methods—by "aseptic" rather than "antiseptic" formula. This was the first strong manifesto of Mr. Tait against Listerism, and was the real beginning of an antagonism that he waged until his death.

The next two years—1881-2—were not so fruitful in intellectual results as the dozen which had preceded. It was in 1881 that Mr. Tait permitted an opportunity to pass unimproved, whereby a patient lost her life and science was for a time deprived of a helpful impetus. He was called by Mr. Hall-Wright and urged to operate for a case of ruptured tubal pregnancy. He hesitated and the patient died. The autopsy showed the feasibility of the operation. I shall ever remember the description of his chagrin as Mr. Tait told me of this incident several years later. It was not until Jan. 17, 1883, that he encountered his next case of this character. It may be safely surmised that there was no hesitancy this time. He operated and saved his patient. A series of thirty-five cases of operation for ruptured tubal pregnancy with but two deaths speedily followed, and its publication put this surgical resource on a sound footing. While all this and other work was in progress, this indefatigable man found time to expand his Hasting's Prize Essay into a treatise on "Diseases of the Ovaries," and to see it through the press.

In 1884 Mr. Tait, prompted by a catholicity of spirit which protested against what he termed the exclusiveness of an existing London organization of which he was a member, joined a number of his friends in the organization of the British Gynecological Society, of which he was elected vice-president. During this same year he published his first recorded 1000 cases of abdominal section. This was followed the next year by the publication of his startling record of 139 consecutive ovariotomies without a death. This remarkable record was also offered as a protest against Listerism. It was assailed, as a matter of course, and the question became one of veracity. But the cases were of record and, when I visited him a few months later, I had the satisfaction of examining the bedside notes, all duly signed by those present at the operation and by the nurses who kept them. With all the protesting, not an allegation in that record stands disproven. It was in 1884 also that Mr. Tait visited America at the invitation of one of our Fellows, Dr. Vander Veer, and demonstrated his operations in the hospitals of New York, Albany and other cities.

One would suppose that so much of professional work would exhaust all of at least one man's energy, but such was not the case with this remarkable man. About this time he withdrew from the Town Council and contested, unsuccessfully, the Bordesley division as a radical home-rule candidate for Parliament. He was also a writer of leaders for the principal newspaper of his party in Birmingham in which enterprise he also had a pecuniary interest. He was also a shareholder in a theater, and gave some personal attention to its conduct. In 1886 he was the president of the British Gynecological Society and went regularly to London to preside over its monthly meetings. With all of this activity he seemed to crave still further responsibilities. In 1888 he delivered the Ingleby lecture, choosing "Ectopic Pregnancy" as his topic. The same year he accepted the professorship of gynecology in Queen's College. One of the earliest fruits of his professorial labors was the collection of his previous writings and their publication the following year in the first volume of a projected two-volume work on "Diseases of Women and Abdominal Surgery"—the second volume of which never appeared. This same year—1889—he was elected president of the Birmingham Medical Institute, an office which he held during the next four years. But it is impossible in the brief space of an address, such as this, to trace, step by step, the great work accomplished by this man. To the brief résumé which I have already given I must add that he was elected to the presidency of Mason College, and that he was awarded the Cullen and Liston Memorial Prize by the Edinburgh College of Physicians for his services to medical science. From America, also, he received honorable recognition. The University of the State of New York conferred on him, *honoris causa*, the title of Doctor of Medicine, as did the St. Louis College of Physicans and Surgeons, and he was an Honorary Fellow of both the American Gynecological Society and of the American Association of Obstetricians and Gynecologists.

The last five years of Mr. Tait's life were marked with a more or less continuous invalidism. He was operated on in London for stone, and subsequently developed a chronic nephritis. These and other depressing influences prompted him largely to relinquish his operative work, and he sought repose at beautiful Llandudno, facing the Conway estuary and commanding a view of the Penmaenmawr Mountains. So impressed was he with the sanitive features of this location that, but a short time before his death, he purchased an inn on a high point of land with the object of converting it into a sanatorium for consumptives. But he was never permitted to carry this philanthropic plan to fruition, as he was suddenly seized, June 3, with renal complications from which he succumbed, June 13, 1899. In accordance with his request his remains were cremated at Liverpool. In further compliance with his wishes his ashes were deposited in a cave on his private grounds.

It is difficult to summarize a life of such originality and activity. It may be said of Mr. Tait, however, that he laid the foundation of modern abdominal and pelvic surgery; that he personally devised the chief operations that pertain to that department of practice; that he invented many new instruments and improved many others; that he refined surgical technic to its present simplicity; that he demonstrated for the first time much of the now accepted pathology of the uterine appendages; that he reduced the mortality in abdominal and pelvic surgery to the minimum; that he, more than any other one man, forced the reforms whereby modern hospitals have been brought to their present high state of efficiency, and finally, that he has added many years of life and happiness not only to women, but to mankind. Living *primus inter pares* his death leaves the largest possible vacancy in the productive intellectuality of the surgical world. But the influences he set in motion are happily immutable, and illustrate, in the words of Longfellow, that

> —when a great man dies,
> For years beyond our ken,
> The light he leaves behind him lies
> Upon the paths of men.

My own personal acquaintance with this great man began in the winter of 1886. In the midsummer of that year I had published a short series of abdominal sections which I had done as nearly as I knew how in accordance with his teachngs. The report, although published in a local American journal[1], attracted his attention, just as did every other report of the kind published at that time in any part of the world. It was said of him at this time that he saw every sparrow that fell from the gynecologic heavens. He at once sent an appreciative letter to the journal and another to myself, inviting me to visit him. His letter found me in the final acts of departure for the voyage. The promptness with which I responded to his invitation must have been a trifle startling. On my way to New York, however, I was told that "Tait had said that he didn't want to be bothered with any more American tramps." This rankled not a little, and the more so the nearer I got to England. When I reached Queenstown I sent a message to a personal friend in Birmingham asking him to inquire into the correctness of the report, and to advise me at Liverpool, for I had made up my mind to never cross the threshold of one who had spoken thus opprobriously of my compatriots. I was advised to come on, that "it was all right," and my reception was indeed most cordial. This man, who was startling the professional world, and the magnetism of whose genius had lured me across the Atlantic, was indeed a striking personality. Of rather less than medium stature, broad-shouldered and deep-chested, he carried, in splendid poise, a head to describe which one can think of no other word than leonine. His full growth of very dark hair was in striking contrast to the prevailing fashion, while his closely cropped side whiskers gave him a distinctly English expression. His eyes, scintillating with intelligence, were now penetrating one with their attentiveness, dancing merrily at some pleasantry, flashing defiance at the narration of some wrong, and, anon, expressing tenderest sympathy over some picture of human suffering. His well-chiseled mouth was another of his most expressive features, and by its mobility could be seen the play of emotion that engaged his mind and heart. It was a royal feast attended only by Mr. Tait, his charming and faithful wife, United States Consul Hughes, and myself. There was a cordiality in the atmosphere that made one feel at home. All the genial sympathy was enhanced by the captivating frankness with which the host discussed the personal aspects of his great struggle. "No," said he, "far from disliking the Americans I am really fond of them. I owe them a debt of gratitude that I can not easily repay, for if it had not been for the recognition and support they gave me, and are yet giving me, I could not have succeeded in my fight against English conservatism." He repeatedly made this declaration to me, and he reiterated it in a letter which I received from him but a few years ago, and in which he delineated the rise and development of "The Birmingham School." I mention this only to show Mr. Tait's real sentiments toward America and Americans. While I do this, I do not wish to conceal the fact that he had grievances against certain of our countrymen, and that he realized it. This grievance was against those who, while spending months at other hospitals, would run up to Birmingham for a day, "just to see Tait operate." The material at Birmingham was always so abundant that they were generally gratified. They saw a simplicity that was strikingly in contrast with the complex procedures they had seen elsewhere, and they saw a celerity of operation that in contrast with the usual slowness of uncertain workers looked much like recklessness. They tarried only to satisfy their curiosity, and went away without knowing the man or understanding his methods or familiarizing themselves with his results. These people generally constituted themselves his public critics, and printed animadversions that were generally colored by the London prejudice to which they had willingly subjected themselves. If Mr. Tait did not call these people "tramps" he ought to have done so, for no word in the language so aptly defined their leading characteristic.

The weeks that followed my initial interview were replete with valuable experience, delightful personal association and cordial hospitality, so that when my leave-taking came I felt I was leaving the home 'neath whose roof I had imbibed the inspiration for my life-work.

The surgeon who thus imbued me with admiration and confidence was the most dexterous and resourceful whom it has ever been my privilege to observe. He did nothing with the appearance of haste, but moving by direct lines and to a definite purpose, every crook of his finger counted. No complication seemed to dismay him, and no emergency disturbed his equanimity. His dexterity was phenomenal, and his celerity a marvel, even in a country that abounds in operators of pre-eminent ability. I have seen him begin and complete an ovariotomy inside of five minutes, and conclude a hysterectomy within twelve minutes after making the initial incision. While this was true, I have seen him spend an hour over an open abdomen, when the complications and the welfare of his patient demanded it.

The man who thus impressed me was indeed a remarkable personality, and one difficult to delineate. His manners were of the vacillating kind. At one time he would be brusk and inconsiderate, forgetting his mood the next minute in an exhibition of deferential courtesy that was captivating. If it can not be said of him that he always observed the Emersonian dictum "that manners are made up of petty sacrifices," he often demonstrated how politeness could embrace generous benefactions. As a host he was captivating in his hospitality. Himself fond of the pleasures of the table, he encouraged his guests to similar indulgences. As a story-teller he had but few equals, and his *repertoire* was full of the latest novelties, many of them of his own invention. I never heard him tell a story malapropos. He was a veritable flash-light in reparteé and, to cling to my metaphor, often blinding in his merciless brilliancy. As a public speaker he was clear and incisive, never pausing for a word, a habit affected by the average parliamentary speaker, but always selected the right one for the right place. He was magnetic, and his discourses were more frequently interrupted by applause than were those of many successful speakers. So accurate were his extemporaneous utterances that they could have been safely published without revision. He always spoke to a purpose, and was never "a tuner of accents." As a writer he was especially able on controversial themes. While his language in his descriptive works was always correct, and his diction elegant, he lacked completeness, system and arrangement. These defects made it difficult to utilize many of his writings as working formulæ, although everything that he wrote contained a germ truth that sprouted and grew to rich fruition in the fertile soil of the profession.

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[1] Columbus Med. Jour., July, 1886.

It is impossible for me to portray the inner character of him, the incidents and surface indications of whose life I have briefly summarized. There is that in the life of men that defies scrutiny and eludes the pen. Who shall weigh courage, or measure tenderness, or estimate love? Never were elements better combined to defy the cunning of analysis. It were easy and natural in speaking of Mr. Tait to use such words as able, energetic, aggressive, inventive, resourceful, brave and tender, but it is not easy to portray the psychic play whereby these and other qualities were blended in varying degree to produce the character that he revealed under varying circumstances. We can only follow the advice of Locke, who said that "the actions of men are the best interpreters of their thoughts." To interpret one's thoughts is to interpret one's character. If we are to interpret Mr. Tait's character by his actions, we are at once impressed that he was a man of great character, for he was a man of great action. With him activity seemed to be as essential as breathing is to his existence. It was with him veritably a question of do or die. He acted openly before the world, and invited the closest scrutiny. He realized that, fundamentally, all action relating to the common good is, and of right ought to be, public. He was always ready for the task at hand, and thus went naturally from one achievement to another. Thus opportunities which at first seemed remote became present activities. Sophocles said: "Heaven never helps the man who will not act." The activities of Mr. Tait certainly entitled him to large benefactions from Heaven. One of the earliest of these benefactions came to him in the guise of adversity. He felt its pangs, but with his propensities it was, indeed, the severe mistress that forced him to high endeavor. It freed him to believe that what man had done man could do, and to realize that he was a man. He set himself to high things—and he speedily justified his presumption. Adversity rarely travels except under the escort of enmity. To no man have enemies been of more value than to Mr. Tait. Rather than to have been without them he might well have purchased them with pure gold. They aroused him to activity, and developed the best that was in him. He answered them openly, frankly, often severely. While he was always frank in acknowledging their merits, he never offended good taste by treating them to "a diet of praises sauc'd with lies." Carlyle justly observed that "no man is born without ambitious worldly desires," and Mr. Tait had his full share of ambition. He was indeed an exemplification of the fact that "ambition has no rest." He was anxious to place his name on the scroll; he was proud of his achievements, and he was interested that the record should be written with truth and justice. He seemed daily to illustrate the declaration of Scott that

> One crowded hour of glorious life
> Is worth an age without a name.

He was distinctly the man for the time. At his advent professional opinion, like a dear old lady who had feasted well, was drowsing in an arm-chair. He heralded new things in thunder tones, poked the drowsy jade in the ribs and broke up the siesta. Of course, there were angry protests, but they availed nothing, for he went on thundering and prodding until everybody was awakened. This was his life. In its busy course he often paused to smooth the troubled brow, to feed the hungry, and to give to poverty wherewith to cover its nakedness. He loved trees and flowers, and heard music alike in rustling leaves and gurgling brooks. His heart of tenderness won him to the side of defenseless brutes, and he became their champion in the ceaseless conflict between sentiment and reason. Withal, he had wisdom, for oft he knew that he did not know, and, not knowing, sought to know. No adversary ever criticized him half so severely as he criticized himself. Often impulsive, he was yet given to deliberation, and in such deep thought is wisdom born. His wisdom, however, manifested itself in firmness of mind rather than in mastery of appetite. Indeed, he, like many of the most illustrious in history, may have had occasion to exclaim with his own beloved Burns, that "Nature formed me

> 'With passions wild and strong,
> And list'ning to their witching voice
> Has often led me wrong.' "

If this were true it was because he lived intensely, and, living thus, he lived, not long, but much. While he lived, he lived in deeds, thoughts, feelings and heart-throbs, taking little account of years or clock-dials. In the intensity of his life he erected a monument of majestic good, which alone appeals to memory, and beneath which mote and blemish have sought their own oblivion.

I prefer to remember Mr. Tait as I last saw him. It was four years ago, during the session of the British Medical Association in London. One morning, at his suggestion, we slipped away from the meeting and, joining my family, we spent the day on the Thames. We were overjoyed to have him thus to ourselves. Although he was showing some signs of a recent illness—possibly some traces of the deep malady that finally carried him off—he was strikingly interesting in his comments on the old land-marks that throng either bank of that historic river. History, anecdote, criticism and comment flowed from him in a sparkling stream, while at times he joined in the merriment of the children with the zest of youth itself. We returned to London late at night. I escorted him to the National Liberal Club, where he was living. He insisted that I tarry with him a while, and conducted me to a little corner balcony overlooking the great reading-room. "Stand there with uncovered head," said he. "It's as hallowed a place as there is in all England!" It was the vantage point from which the immortal Gladstone was wont to address his faithful followers. He then conducted me up to the tower, from which the great panorama of London lights was visible. It was an impressive sight. As London typifies the world, so did this revelation of it seem to inspire him with world-wide themes. He was away from the hospital, away from the chamber of sickness, from the hall of controversy, and, thus unchained, his great mind revelled in its freedom. England, the Indies, Africa, Anglo-American relations, the then recent war between China and Japan, the contrasting features of Occidental and Oriental civilizations, the great ethnic movements of the world, music the drama, human happiness, and life itself were themes that he touched with the spark of illumination. As we talked, "Big Ben" in Parliament Tower hard by tolled twelve, anon one, and still anon two. The moon rose, and the silhouette of the great city was seen against the tinted sky of the East. The speaker of great thoughts paused to view the majestic scene. I receded a step or two, that I might contemplate, in clearer perspective, the more impressive picture of triumphant genius with the sleeping world at his feet! Thus may he abide in peaceful memory!

Original Articles.

TREATMENT OF THE ABDOMINAL VISCERA THROUGH THE COLON.*

BY FENTON B. TURCK, M.D.
CHICAGO.

The colon is closely related anatomically to the abdominal viscera, enclosing within its embrace the mesenteric vessels, which play an important rôle in the regulation of the circulation and general metabolism of the body. The hepatic, splenic, and sigmoid flexures and the transverse colon are in intimate relation with the liver, duodenum, kidneys and pelvic organs, therefore, it is evident that it is possible to influence these viscera more or less by the application of heat, cold, electricity and other physical stimuli through the colon. Close as the anatomic relationship is between the colon and the abdominal viscera, described above, the physiologic relations may be said to be still more intimate. This is evident from the serious disturbances that accompany diseases of the colon, and is clearly shown by general physiologic action resulting from certain therapeutic measures applied directly to the colon.

In discussing such treatment of the abdominal viscera by means of the colon, we may consider: 1, the direct effect of these therapeutic measures in removing pathologic conditions of the colon; 2, the effect of contiguity with other viscera, and 3, the reflexes.

The most common treatment of the colon is to secure evacuation of retained contents, usually by some mechanical means, such as the introduction of water into the lower bowel, which often has the effect of distending the rectum and sigmoid. This acts as an irritant, causing contraction, resulting in expulsion of the contents. Salts, glycerin, soaps and other substances are often introduced in concentrated solutions for the purpose of producing such contractions and consequent evacuation. These methods are often very valuable for meeting indications for immediate relief, but in the treatment of many chronic diseases they are not only inadequate, but may do more harm than good.

The entire colon is the seat of many diseased conditions, both of the mucous membrane, and of the muscle walls. It is essential that a diagnosis of the location and extent of the pathologic conditions be determined before an attempt is made to apply therapeutic measures. This becomes especially imperative when by means of more improved methods in the technic we are able to apply remedial measures directly to the mucous membrane and to the muscle walls—treatment which will be found unusually effective and valuable, owing probably to the favorable arrangement of the nervous mechanism, and the reflexes of the colon. For example, the effect of high temperature, when applied directly to the mucous membrane of the colon by the introduction of water at relatively high temperatures, is immediate and very marked in securing reflex stimulation of the vasomotor centers. The blood-pressure is thereby raised, the kidneys are stimulated, the hepatic function is increased, and leucocytosis is induced. The effects thus produced seem indeed to result in a general accelerated metabolism, oxidation and elimination; in short, the result is a general cell activity. It is, however, not the purpose of the present paper to go into details on these points, but merely to briefly present the technic of the method of treatment, and to present some data obtained in the course of the investigations —data which seem to the author clinically and scientifically interesting. The methods of treatment through the colon to which the writer would briefly call attention, are: 1, hydrotherapy; 2, hot and cold air treatment; 3, mechanical or massage treatment; 4, electricity; 5, medication per colon; 6, dietetics. In the treatment of the colon, the position of the patient is an important consideration. While some prefer to place the patient in a lateral position, the writer finds that by elevating the hips to a considerable height, the dorsal position has many advantages, and has, therefore, constructed a table adapted to his purpose. (Fig. 1.) By means of this table the patient can be raised to any angle and the water at a temperature of 50 C. (122 F.) is introduced, 250 to 300 c.c. at a time. This is repeated three or four times with water at 50 C., each quantity being allowed to run off into a conveniently placed receptacle before introducing any more. The water is then raised to 52 C. (125.6 F.) and finally to 55 C. (131 F.), using in all about three to six liters of water. The water is introduced through a soft-rubber tube with end and side openings. The patient is then allowed to go to the toilet-room, after which he is again placed on the table, and now receives a similar short treatment with water cooled down to 2 or 5 C. (35.6 or 41 F.) by means of ice.

I have extensively studied the effect of such treatment on dogs, and have used it on patients, with very favorable results. Without going into any detailed account of these experiments, the following typical ones may be mentioned:

Experiment 1.—The abdomen was opened under local anesthesia and partial general anesthesia, and the viscera exposed to cold draughts of air until the abdominal viscera became quite bluish with a fall of blood-pressure, and near approach of collapse. Water at 50 C. (122 F.) was then introduced into the colon, and kept there for some time. No marked changes could be observed in the appearance of the abdominal viscera, even after five minutes of continuous irrigation. The vessels were still markedly congested, and the rise in the blood-pressure was very slight. After withdrawal of the water, the animal was allowed to pass into a state of shock. The viscera were of a very bluish shade, the vessels tortuous and congested. Water at 55 C. (131 F.) was then introduced into the colon and kept there for one minute, the water withdrawn and the procedure repeated. A marked change was observed in the visceral circulation, the color gradually became of a pinkish hue, the blood-pressure rose rapidly, and within ten minutes the animal was apparently out of shock. The dog recovered.

Experiment 2.—In this experiment the viscera of a second dog was similarly exposed to cold air after opening the abdomen. Water at 55 C. (131 F.) was introduced and immediately produced a very marked effect on the circulation, as in the experiment with No. 1. At the end of fifteen minutes, the heart-beat, which had become very weak before introducing the water, was again slow and strong, and the body temperature, which had previously fallen to 97 F. was again at 100 F. At the end of thirty minutes the temperature was 103 F., pulse and respiration rapid, surface red, blood-pressure lowered. Ice water at 3 degrees was next introduced. The temperature fell rapidly to 100 F., the pulse and respiration became slow and regular, the heart strong and vigorous, with a rise of blood-pressure. The colon was then opened for examination, and no hemorrrhage was observed—no damage to its mucous membrane; in fact, it appeared perfectly normal. The colon has been frequently examined after repeated lavage at 55 C.; no damage could be observed.

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* Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

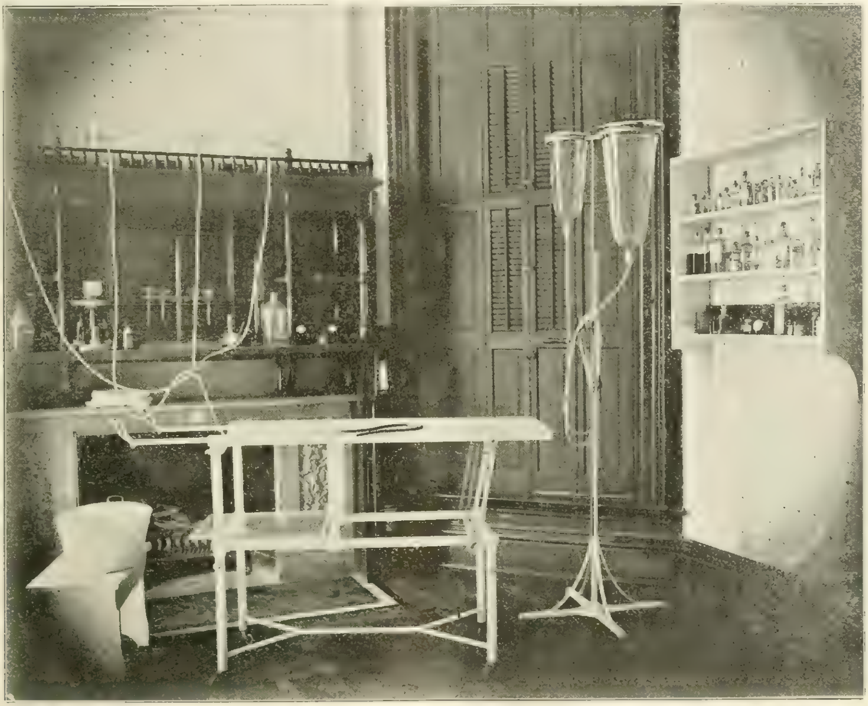

Figure 1

These and other experiments I have made show: 1, that marked congestion of the abdominal viscera is not promptly reduced until the temperature of the introduced water has reached a temperature of 55 C. (131 F.); 2, that the blood-pressure is raised, and the heart slowed at first, but after prolonged irrigation with hot water, the blood-pressure is lowered, and there is a marked rise in the body temperature; 3, that by subsequent use of ice water the heart-beat, respiration, blood-pressure, and the body temperature are again restored to normal conditions; 4, that water at 55 C. (131 F.) for the time mentioned above does not damage the mucous membrane of the colon as far as could be observed.

A series of observations has also been made on patients under similar treatment. The following points have been particularly noted: 1. The effect on heart and circulation. 2. Changes produced in the blood. *a.* The number of red corpuscles before and after each treatment. *b.* The leucocytes. *c.* Comparisons regarding these points before and after a similar daily treatment, continued daily for two to three weeks. 3. The effect on the temperature: mouth, skin and stomach. 4. The effect on the gastro-intestinal tract. 5. The effect on the kidneys. 6. The effect on the liver. 7. The effect on the general metabolism. 8. The pelvic organs. 9. The effect on elimination and auto-intoxication.

Effect on the heart and circulation.—The heart is not materially affected at first by water in the colon at the temperature of 50 C. (122 F.), but in the course of from five to ten minutes the heart-beats become faster and the pulse weaker, owing to the dilatation of the arterioles. When the temperature of the water has reached 55 C. (131 F.) there is an immediate reflex stimulation on the heart and the vasomotor centers. The beats become slower and the pulse shows a firm briskness which is verified by an increased blood-pressure, as shown by sphygmograph and sphygmometer. Some patients experience a sensation of chilliness at the beginning of the treatment, but this soon disappears. If the treatment be continued for thirty minutes the blood-pressure may again fall, owing to a dilatation of the cutaneous vessels, produced by the heated blood as it reaches the periphery. The time when this occurs depends largely on the individual conditions of the heart and circulation, and is in all cases immediately changed on introduction of cold water into the colon. With the cutaneous circulation well established, the equilibrium of the circulation remains constant for a longer or shorter time, this depending on the condition of the heart, the character of the blood-vessels, and the nervous mechanism of the individual. Facts of diagnostic value may often be obtained in the progress of this treatment, by carefully observing the heart and circulation before, during and after the treatment.

Changes Produced in the Blood.—The effect of the treatment and the composition of the blood is indicated by the following table showing the number of red and white corpuscles, with the percent. of hemoglobin, before and after each treatment.

Case.	Number Corpuscles.								Hemoglobin.	
	Red.				White.					
	Before.	After.	Total gain.	Per ct. gain.	Before	After.	Total gain.	Per ct. gain.	Before	After.
J. S.	5,860,000	5,902,000	42,000	0.2	9,660	11,655	1,995	20.	70	75.5
C. H. D.	4,890,000	4,910,000	20,000	0.3	6,038	5,880	Loss. 142	Loss. 27.	45	52.5
R. E. H.	5,670,000	6,900,000	1,230,000	22.	6,195	7,245	1,050	17.	67	75.
J. L C.	4,850,000	5,230,000	380,000	8.	9,345	9,450	Loss. 105	Loss. 01	70	75
M. P. R.	4,660,000	4,840,000	18,000	40.	5,586	6,636	1,050	17.	65	75
R. S. W.	4,630,000	5,300,000	670,000	14.	6,370	9,450	3,080	48	70	75 +
E. J. W.	5,840,000	6,872,000	32,000	6.	5,812	10,756	4,914	89.	70	80
F. G. Temp. 50 C	6,880,000	6,650,000	Loss. 230,000	Loss. 5.	9,365	8,400	Loss. 965	Loss. 10.	70	75
J. T. Temp. 50 C	6,540,000	6,070,000	Loss. 470,000	Loss. 7.	7,035	7,770	735	10.	70	65 +

The observations as represented in the following table show that water of 48 to 50 C. (112.6 to 122 F.) produced no increased leucocytosis, but sometimes the reverse, while water at 55 C. (131 F.) has considerable effect in increasing the number of white corpuscles.

Increased Leucocytosis after colonic lavage, 8 to 10 hours after a meal. Temperature, 55 C. (131 F.). Time, 25 minutes. Followed by ice water at 5 C. (41 F.), 2 to 5 minutes.

Case.	Before.	After.	Gain.	Per cent. gain.
1	5,740	6,692	952	17
2.	7,800	10,625	2,825	36
3.	4,420	6,722	2,302	52
4.	4,964	7,561	2,597	34
5.	11,760	14,700	3,060	26
6.	9,660	11,655	1,995	26
7.	6,428	9,349	2,921	45
8.	6,627	7,722	1,095	16
9.	7,726	10,772	3,056	39
10.	3,924	5,749	1,825	46

Increased Leucocytosis after colonic lavage, 2 to 3 hours after a meal. Temperature. 55 C. (131 F.). Time, 25 minutes. Followed by colonic lavage with ice water at 5 C. (41 F.), 2 to 5 minutes duration.

Case.	Before lavage	After lavage.	Total gain.	Per cent. gain.
11.	5,250	6,353	1,103	21
12.	6,370	9,450	3,080	49
13.	3,742	4,940	2,198	59
14.	6,480	7,890	1,410	23
15.	9,760	11,368	1,608	17
16.	8,242	9,292	1,050	13
17.	10,420	12,656	2,236	21
18.	6,720	7,942	1,222	19
19.	7,842	8,976	1,134	14
20.	5,742	7,894	2,154	39

Estimation of the number of Leucocytes after colonic lavage. Temperature of the water, 50. C (122 F.). Followed by cold water, temperature 5 C. (41 F.) Time, 25 minutes.

Case.	Before lavage.	After lavage.	Gain.	Loss.	Per cent.
21.	7,717	6,672		945	12
22.	6,303	6,090		390	6
23.	9,345	8,400		945	10
24.	5,670	6,190	520		10
25.	11,478	10,773		705	7
26.	9,341	9,450	109		1
27.	6,038	5,888		150	2
28.	3,479	3,686	207		6
29.	7,335	7,350	15		0.2
30.	9,292	8,242		1,050	11

One reason may be offered as an explanation for these phenomena. The occasional decrease produced by water at 48 to 50 C. is probably due simply to rapid dilatation of the vessels, with lowered blood-pressure, and consequently a less number of leucocytes are swept into the general circulation. The increase in the blood pressure produced by water at 55 C., as it does on the splanchnic area, may sweep out the blood from this region into the general circulation.

Alimentary leucocytosis is undoubtedly produced in this way, viz., through vasomotor stimulation of the splanchnic area, but the greater increased leucocytosis resulting from colonic lavage at 55 C. is due to the greater stimulation produced by the high temperature acting on the splanchnic area.

Comparison of the composition of the blood before and after two to three weeks' treatment has shown that while a general circulation improved with increase of total number of corpuscles, there is found no permanent increase of the proportion of the leucocytes over the reds. We may regard the increase in number of leucocytes as physiologic.

Effect on the Body Temperature, Mouth, Skin and Stomach.—In a number of cases of gastro-intestinal diseases where the condition of circulation gave evidence of congestion of the splanchnic area with contraction of the peripheral arterials, it is interesting to note that the skin temperature was below the normal while the internal temperature as found in the stomach was above normal. The temperature in the stomach was taken with a small thermometer especially made for me by Mr. Hicks of London. After colonic lavage at 50 C. (131 F.) for five minutes, there was an immediate fall in internal temperature with a corresponding rise of the skin temperature. On continuing the colonic lavage there was a gradual rise of the internal temperature as determined in the stomach, and a continuation of the rise of the skin temperature. At the end of thirty minutes the general elevation of temperature was found as usual with the equalization of the relative temperature as determined in the stomach, mouth, and skin. On the introduction of ice water the temperatures were equally reduced to normal limits. The following table is taken as the average from a number of cases showing temperatures found in the stomach, mouth and in the skin.

Average temperatures (Fahrenheit) of the mouth, stomach and skin before and after colonic lavage at 55 C. in cases of splanchnic congestion.

Time.	Mouth.	Stomach.	Skin.
Before lavage	98.1	101.4	93.8
Five minutes after lavage	98.1	100.2	95.7
Twenty minutes after lavage	99.6	101.7	96.2
Thirty minutes after lavage	101.0	101.6	98.0
After lavage with (ice) water at 50 C. for five minutes	98.4	99.2	95.0

Effect on the Gastro-Intestinal Tract.—The immediate effect of high temperatures in the colon is to produce a series of contractions. These contractions at first appear to be local, but in the progress of the treatment the peristalsis of the entire colon followed by both peri- and antiperistaltic movements of the small intestines are observed to take place, and these movements are extended until those of the stomach are also materially increased. These contractions of colon, intestines and stomach are not produced by water having a temperature of only 48 C. (118.4F.), but they begin at once when water at 55 C. (131 F.) is introduced into the colon.

The following experiments on dogs will serve to show the effect of water on the movements of the gastro-intestinal tract.

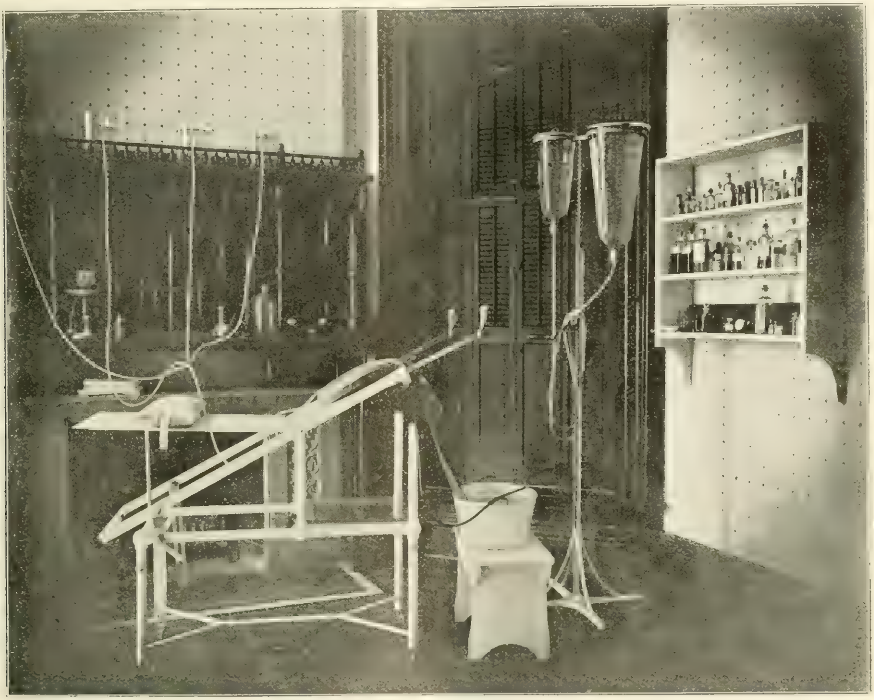

Figure 2.

EXPERIMENTS ON THE GASTRO-INTESTINAL TRACT

Experiment 1.—The abdomen of the dog was opened and the viscera exposed. Water at 48 C. (118.4 F.) in the colon failed to produce any visible movements either of the colon or of the intestines. Water at 50 C. (122 F.) also failed to produce any increase in the natural movements of the intestines. Water at 55 C. (131 F.), on the other hand, immediately produced local contractions, followed by slight antiperistaltic and peristaltic movements. As this water was withdrawn and fresh quantities having the same temperature were introduced, the peristaltic movements continued to increase, and after a lapse of twenty-five minutes the movements had reached the stomach, and the wave continued, causing a marked and vigorous retraction, followed by extension of the pyloric portion of the stomach. These observations were verified by the following experiments:

Experiment 2.—Three dogs were experimented on simultaneously. Dog 1 was subjected to colonic lavage with water at 55 C. for twenty minutes. Dog 2 was similarly treated, while Dog 3 received no lavage. The abdomens of all these dogs were then opened at the same time, by myself and my assistants. The peristaltic movements were very marked in Dog 1, the movements extending from the stomach throughout the whole tract. The contractile movements in this dog were in very strong contrast with the slow and occcasional movements in Dogs 2 and 3. There was little or no difference to be observed in the intestinal movements of the latter two dogs, one of which had received colonic flushing at 50 C. (122 F.) and the other no flushing at all.

Similar introduction of water at 55 C. (131 F.) in the treatment of patients at once provokes peristaltic pains which, according to the testimony of female patients, are of the same nature as labor pains. These pains are very much lessened, however, by first using water at 50 C. (122 F.) and then increasing its temperature to 55 C. (131 F.). A somewhat extended treatment of this kind produces a very decided general peristalsis, as is evidenced by the passing of gas and fecal matter from high up in the intestines. No distress accompanies this treatment, and the patients, in fact, usually express a feeling of general comfort. The treatment, further, also exerts a marked influence on the motor power of the stomach, as I have proved by a large number of observations in cases of gastric motor insufficiency due to simple atony.

In considering the causes that produce such remarkable increase of the motility of the gastro-intestinal tract when the colon is treated with hot water (55 C.), it would seem fairly probable that: 1. The stimulation of the end nerves in the colon by water at 55 C. (131 F.) produces a reflex action on the nervous mechanism of the entire tract. 2. The heated colon may act like a hot water bag, by direct contiguity with the abdominal viscera. 3. The heated blood of the splanchnic area may in turn stimulate the muscle cells. 4.

The vasomotor effect in replacing venous by arterial blood in the muscle walls would stimulate the muscle tone and produce contractions, and the periodic introduction and withdrawal of the water act as a gymnastic exercise. It may be that all of these factors are more or less active in producing the general result.

Effect on the Kidneys.—The hot-water treatment has a decided effect on the kidneys. The secretion of the normal kidneys varies with the degree of the circulation, or the amount of blood that flows through the organ. Landergren and Tigerstedt have shown that when the kidney is in active functional condition, unusually large quantities of blood pass through it. The nerve-supply of the kidney, its vasoconstrictions and vasodilatations, are largely influenced by reflex action, and the secreting activity of the kidney seems to further depend on the changes in the blood-supply. The secretion of urea by the epithelial cells of the kidney has gained additional significance through Berkeley's recent discovery of nerve-fibers passing through the basement membrane and ending between the epithelial cells.

In the course of my experiments it was found that water at 40 to 45 C. (104 to 113 F.) produced no immediate secretion in the kidney, and that this was produced within three minutes by water at 55 C. (131 F.) The water of the lower temperatures was further found to remain in the colon for a very much longer time than the water of higher temperature. A moderate quantity of the latter would be completely absorbed in about fifteen minutes, while from an hour to an hour and a half would be required for the complete absorption of an equal quantity of water at 40 to 45 C. (104 to 113 F.)

The following table of urine secretion and urea elimination by the kidney indicates most clearly how the functional activity of this organ is stimulated by hot water lavage of the colon.

Estimation of the amount of urine and urea before and after colonic lavage. Temperature, 55 C. (131 F.). Urine collected for 24 hours. Diet and work the same before and after treatment.

Principal symptoms or disease.	Before treatment.			After treatment.		
	Amount urine, 24 hrs.	Per cent. urea.	Total urea. Grams.	Amount urine, 24 hrs.	Per cent. urea.	Total urea. Grams.
Acute renal hyperemia	300	3	9	1,200	1.5	18
"Catarrhal jaundice." Icterus	1,050	1	10.5	1,550	1.9	29.45
Chronic gastritis, dilatation, renal hyperemia	650	1.8	11.70	1,500	1.2	18
Hepatic cirrhosis, hypergastritis, interstitial chron.	750	2	15	1,025	2.5	25.62
Gastritis chron	1,240	1.1	13.64	1,440	2.1	30.24
Chronic diarrhea	675	2.4	16.20	1,020	2.9	29.58
Gastric myasthenia, splanchnic congestion	1,140	1.8	20.52	1,325	2.7	35.27
Gastric dilatation	1,009	1.	10.09	1,125	1.85	20.81
Gastritis glandularis chronica, splanchnic congestion	1,150	1.9	21.85	1,400	2.5	35
"Atrophic" cirrhosis liver.	790	1.6	12.64	950	2.1	19.95

The causes for this interesting phenomenon may be the following: 1. Reflex stimulation of the kidney cells and of the vasomotor mechanism of the gland. 2. Increase in the general blood-supply. 3. Heat stimulation by the heated blood and directly by contact with the heated colon. 4. Increased destructive metabolism would produce increased quantities of urea and alloxur bodies, and these would act as diuretics and produce an increased activity on the part of the kidney. 5. Absorption of water alone would increase the volume of the blood and of the blood-pressure.

Effect on the Liver.—The liver is also largely influenced by colonic lavage. This has in fact already been shown by the investigations of a number of earlier investigators. Bidder, Schmidt, Zolesky and Rosenberg have shown that the flow of bile in dogs is increased by the introduction of water into the intestines. Krull and Lowenthal have shown, clinically, in cases of catarrhal jaundice, that irrigation of the colon with cold water produces an increase in the flow of the bile. Noel Poton has, however, further shown that this apparent increase is due to an increase of the water and not of the solids of the bile. Barbera further shows that the excretion of bile runs parallel with the excretion of urea, and as urea is chiefly formed in the liver, other conditions being equal, it forms an index, or at least a partial index, of the bile excreted. The above table of urea determinations can therefore be taken to indicate the effect of hot water on the bile secretion of the liver.

It will be noted that for some time after treatment with colonic lavage, the per cent. of urea remained quite high. Rosenberg and Barbera's work shows that the effect of food on the liver is due to the vascular changes produced, and Heidenhain and Rohring have shown that an increase in the flow of blood also increases the flow of bile.

The general conclusion among physiologists is that the bile-producing function of the liver is not under the direct control of the nervous system, as is the case with other glands, but that it is influenced chiefly by the flow of blood. These facts are of great importance in the treatment by methods that influence the circulation, especially that of the splanchnic and more particularly the portal circulation.

Lavage of the colon with water at 55 C. (131 F.) not only increases the flow of blood, but further stimulates the cells of the gland by raising the temperature of the blood as well as by direct contact with the heated colon.

Effect on General Metabolism.—Metabolism, strictly speaking, is simply the changes occurring within the body, between food material and the tissues and organs of the body, and these changes are, as far as we yet know, subject to the laws governing physics and chemistry. That the metabolism may be effected by physical means, such as motion, is perfectly clear. The changed or hastened process of metabolism involves corresponding chemical changes, as, for example, in the oxidation of food or of tissue material, and the setting free of an equivalent quantity of heat. The heated blood may act on tisssue cells, may stimulate the nervous mechanism and give rise to increased cellular activity in tissues and organs throughout the whole body.

Metabolism, destructive and constructive (katabolism, anabolism), is further effected by the character of the food material, as it is brought into the blood, by the supply of water and of oxygen, by changes of temperature, and, finally, by nervous impulses of various kinds. These metabolic changes, whether destructive or constructive, may be produced by impulses set up in the same nerve; the one process may be gradually replaced by the other, or both may go on at the same time.

To summarize—Hot water in the colon (at 55 C.) influences metabolism: 1. By increasing the circulation, thus furnishing more food, more oxygen to the tissues, and more rapidly removing a variety of waste products. 2. Through nervous impulses by the heat stimulation. 3. By directly increasing the temperature of the blood. 4. By direct heat stimulation of the cells of organs contiguous to the colon. Increased metabolism is shown by increased elimination, especially of urea, by an increased amount of food taken, and often by an increase in the weight of the patient.

Effect on the Pelvic Organs.—The beneficial effect of colonic lavage on the pelvic organs, both male and female, is considerable. In all forms of pelvic congestions of the uterus and ovary the symptoms rapidly disappear by the use of colonic lavage, using water at 55 C. (131 F.). Water at such a temperature is, as has already been pointed out, perfectly safe, and is well borne in the colon, although it is not safe to use such a temperature directly in the more delicate and sensitive vagina.

Auto-Intoxication and Elimination.—In considering, finally, the effect of colonic lavage on such general processes as elimination, auto-intoxication, oxidation, etc., especially on that of the various forms of toxemia or general auto-intoxication, I must confine myself to a number of observations made directly on patients.

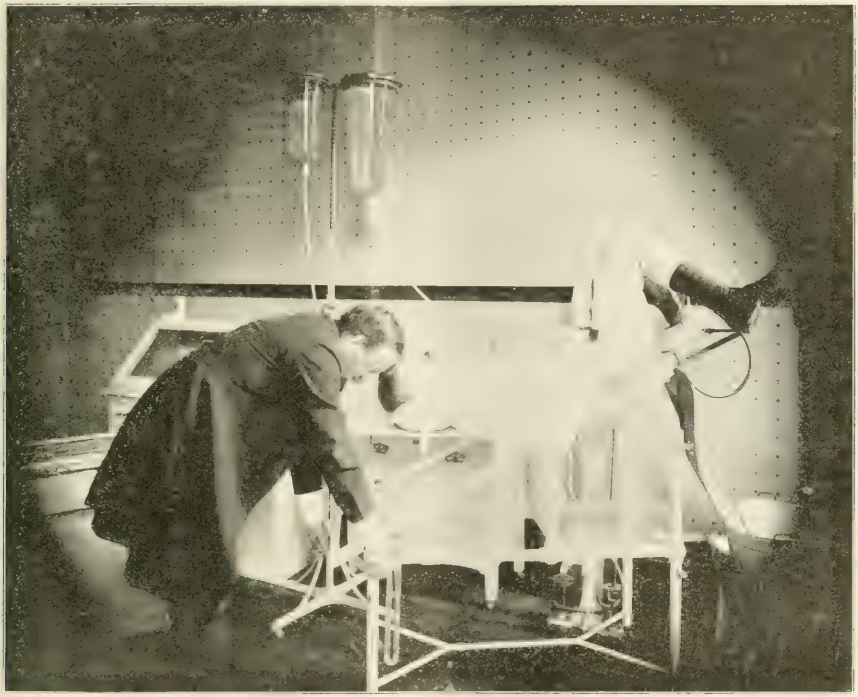

Figure 3.

Auto-intoxication can evidently originate in a number of different organs through functional failure, such as the gastro-intestinal tract, the liver, the kidneys, the skin and the lungs.

1. Auto-intoxication arising from the gastro-intestinal tract is probably far more common than is generally supposed. Cases of acute gastro-enteritis are relatively rare, while cases of chronic gastro-intestinal atony are quite common, resulting in various symptoms of auto-intoxication.

2. The manifold function of the liver makes it a fairly common starting-point for toxemia, either directly, by producing toxic substances, or indirectly through its failure to take care of the toxins that pass through it from the blood, as in the case of catarrhal inflammation of the bile-ducts. In any case, colonic lavage at 55 C. (131 F.) is an active means of combating the complex symptoms known under the term cholemia.

3. *The auto-intoxication arising from suppression of the renal function* we term uremia. In pronounced cases with severe symptoms of uremia, the kidneys show far advanced pathologic lesions, and such cases result in death. Marked renal disturbances, such as congestion, in which the function is inadequate, and the uremic symptoms quite pronounced, are, on the other hand, promptly restored by colonic lavage. In many cases of pathologic lesions, too, the results obtained by colonic lavage are certainly gratifying. The increased flow of blood through the kidney, the increase in its functional activity, the removal of the congestion, etc., as produced by the colonic lavage at high temperatures, together with the increased vicarious action of the intestinal tract and the skin, these relieve the crippled kidney and give it sufficient opportunity to recover. In these cases the lavage does not only improve the functional efficiency of the kidney, but other organs suffering from retained toxic substances are affected, and thus help to improve the general circulation. The result of colonic lavage certainly seems to the author more effective than the direct treatment with diuretics and renal medical stimulants, though these are by no means to be entirely disregarded.

4. The skin is capable of excreting toxic substances. This excretion can be materially increased by the increased circulation of the heated blood as resulting from lavage. The heated blood is carried to the periphery, and becomes a powerful factor in stimulating the sweat-glands to increased elimination. Other methods are

used to produce this end, but this method has the advantage that it does not debilitate the patient.

From what has been said of the effects produced by colonic lavage on the gastro-intestinal tract, on the liver, kidney and skin, it is clear that the result of the treatment must be valuable in various forms of auto-intoxication with an improvement in the general and local circulation, including the circulation of the lymphatics. The result, in turn, effects an increased leucocytosis, and thus gives another powerful aid in combating various forms of sepsis and auto-intoxication.

Further observations are to be published later.

A FURTHER REPORT ON THE USE OF "ANTIPHTHISIC SERUM, T. R." (FISCH) IN TUBERCULOSIS.

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In this paper I desire to supplement my recent report on serum therapy[1]. I therefore shall not attempt to enter into the histories and descriptions of individual cases, but will give a summary of cases treated and form a few general deductions.

The report includes only those cases treated with "Antiphthisic Serum, T. R.;" time covered by the treatment twenty-one months; number of cases treated, fifty.

For convenience of description I shall arrange the cases into two groups: 1. Those in the first class were in the earliest incipient stage and had not advanced to the stage of expectoration in which bacilli could be found. 2. Those in the second class had advanced to the stage of expectoration with bacilli present.

There are nineteen cases belonging to the first class. These cases gave the usual symptoms belonging to the incipient stage. The majority of them gave a strong tuberculous family history, and had been sent to Colorado by their physicians. The tuberculin test was made in thirteen members of this class, followed by reactions. The remaining six cases had symptoms equally pronounced, but were not subjected to the tuberculin test. Without a single exception each case belonging to the first group made rapid improvement under the serum treatment. At the close of the treatment they were again subjected to the "O. T." test and failed to react. Furthermore there has been but one case of this group that relapsed after improving under the serum. The patient remained in good health for nine months before relapsing. Treatment was then resumed and continued for five months, during which time all symptoms disappeared. At the expiration of this time the tuberculin test was given, without reaction. The patient is now in excellent health.

The second class embraces thirty-one cases. Of this number eleven were in the incipient stage and twenty were advanced cases. Of the eleven belonging to the early-stage class, four were cured, the bacilli disappearing completely. Five cases made distinct improvement, but the serum was discontinued too soon. Two cases are improving and the treatment is continued. Of the twenty advanced cases, four made distinct improvement. Seven improved slightly, but subsequently failed. Three made no improvement, and six died. I should state however, that one of the deaths was due to pneumonia, the result of exposure, involving the unaffected lung. I should also state in this connection that many of the cases included were under the serum treatment but a short time. Experience has proven that best effects may be expected only after an extended use of the serum. In many of the advanced cases the serum was discontinued as soon as I became convinced that nothing could be expected from it.

Until recently I have made no effort to select cases. This was done for the purpose of ascertaining from actual experience the advantages to be expected from the treatment in the various stages of the disease.

It is a well-known fact that the majority of persons in the early stage of the disease are not easy to convince of the necessity of supplementing the climate of Colorado with treatment. But when patients test climate and find it insufficient to bring about a cure, they are ready to accept almost any treatment that is recommended to them. Hence, there is always an abundance of those patients in the last stage of the disease willing to try almost any serum treatment. The patients whom I have accepted have, as a rule, used the treatment judiciously.

I regret to state that in almost all advanced cases the benefit has been slight. It has possibly prolonged life. But in the well-advanced cases, I doubt if the serum is able to even prolong life to any great extent.

Three of the foregoing cases were of long standing and were in the last stage of the disease, with extensive involvement of tissues, when beginning the serum. This was early in my experience with serum, and I advised its use as a last resort. Each of these patients continued its daily use for five months. At the time of beginning the serum I believed they had but a few weeks to live Each patient made slow but distinct progress. It may also be of interest to note that from twelve to fifteen months have elapsed since stopping the treatment, and these three patients are alive to-day. Two of this number are now in moderately fair health—the disease having assumed a chronic form—but by no means cured. The third patient relapsed about nine months after stopping the treatment, the result of his own imprudence, and is now in a very low condition.

I mention these three cases, not for the purpose of showing that the serum is capable of curing cases after they reach such an advanced stage of the disease, but to show that the disease may be temporarily checked and the lives of such persons indefinitely prolonged.

I wish to dwell particularly on a class of cases which has been exceedingly interesting to me. I shall report a single case to serve as a type:

Case 1.—Miss X., a lady whose family history was good and whose former health had been excellent, had been overworking in college and at the same time had been living with a family in which there was an advanced case of tuberculosis. She suddenly began to fail in weight and strength. A troublesome cough developed, with very little expectoration. Frequent pains were also experienced in the lungs.

I saw the patient early, and an examination revealed extensive infiltration of the right lung with râles, rapid pulse and fever. Examination of sputum failed to reveal bacilli. I gave the tuberculin test (1 mg. "O.T.") which was followed by a pronounced reaction lasting two days. Immediately after recovering from the reaction of the test I began the use of the serum. The improvement has been rapid and continuous. After three months' treatment the patient is apparently well; all symptoms have disappeared; the lung has cleared. The treatment, however, is continued.

I have found it advisable to continue the serum for

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[*] Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] N. Y. Med. Jour., March 25 to April 8, 1899; Journal, April 1, p. 724.

several months after all symptoms have disappeared. The final tuberculin test will be given before discharging the patient.

We frequently meet with cases which give a history of tuberculosis of long standing, in which there is more or less expectoration, and evidence of a cavity. Such patients usually have no fever, chills or night sweats. They show no, or very little, emaciation, sleep well and have a good appetite. The pulse is close to normal; but there is more or less dyspnea after exercising.

I shall now report a case of this interesting type which was recently referred to me for treatment. The diagnosis was well established, being a case of pulmonary tuberculosis of eight years' standing. The report is as follows:

Mr. M., aged 40 years, a native of Kentucky, contracted la grippe in 1891, and tuberculosis developed, with hemorrhages. Bacilli were present. Tuberculin treatment was commenced in 1892 and continued for eighteen months.

The patient consulted me April 19, 1899. Examination revealed a large cavity in the upper lobe of the right lung. Temperature was normal; pulse was slightly accelerated; appetite and sleep were good; there was slight dyspnea following exercise. The remarkable feature of the case was the profuse expectoration, there being four ounces of sputum in twenty-four hours by measurement. The most interesting feature of the case was the absence of bacilli.

I immediately placed him under "Antiphthisic Serum, T.R." He has now been under treatment six weeks. The quantity of sputum has diminished two-thirds. There has been a gain in weight and strength and in all other respects there has been marked improvement. Treatment is being continued.

There is one other point which has recently been impressed on me with greater force than ever before. To more clearly explain the point to which I refer, I will briefly report a case.

Mr. J. T. S., aged 26 years, a native of Ohio, presented himself early last December for diagnosis. He gave a history of several light hemorrhages in June, 1896. Troublesome dry cough followed, with small quantity of expectoration. His physician examined the sputum and found bacilli. He immediately came to Colorado.

His health remained good after coming to Colorado, until a short time previous to the time of consulting me. About this time a cough developed, accompanied by slight expectoration. Examination revealed a slight lesion in the upper lobe of the left lung. Temperature and pulse were normal. Repeated examinations of sputum failed to reveal bacilli. Notwithstanding the absence of bacilli in the sputum, I advised the patient to begin the serum, which he did at once.

The serum was faithfully administered from December 19, 1898, until April 3, 1899. The sputum was frequently examined during this period, always with negative results. At the expiration of four months the unpleasant symptoms had disappeared. I discontinued the serum and gave the initial tuberculin test, 1 mg., with no reaction. Two days later I gave 5 mg., which was followed by a severe reaction; high fever, chills, night sweats and profound weakness. The effects of this test lasted several days. In the meantime I resumed the use of the serum.

Soon after giving the test the sputum was examined and bacilli were abundant. The quantity of sputum however, was very small. Following the test, several days passed without expectoration. After the effects of the test had passed the patient began to improve, gaining in weight and strength. Expectoration rapidly diminished. There is now no sputum for study.

Examination of the lungs now fails to reveal any evidence of former trouble; no râles are present, and the patient is feeling better than for years.

EFFECTS OF SERUM.

1. In well-advanced cases the serum invariably causes an elevation of temperature, which usually occurs from three to six hours after its administration. The temperature at such times frequently reaches 100 to 104, but remains high only for a short period. At first I was in doubt as to the cause of this marked elevation of temperature. It was a question as to whether it was due to the serum or the disease. I therefore discontinued the use of the serum for a short period with a few patients who experienced the high temperature following the dose, and in each case the temperature dropped to normal or close to normal. I am unable to account for this fever in advanced cases unless it is due to the cumulative action of the serum, with a greater susceptibility of the advanced cases.

2. We also experience, from a prolonged use of the serum, a more or less extensive infiltration of the areas used for injections. These areas do not become tender or painful, but remain more or less infiltrated. In such cases the skin is not readily elevated from the body; the subcutaneous cellular tissues, being the seat of the infiltration, bind the skin more closely to the deeper tissues of the body.

3. Long and persistent use of the serum produces depressing effects, which are best relieved by a short interval of rest. The treatment should, however, be resumed again with small doses.

4. Sooner or later I have found that the lymphatic glands become tender and enlarged from the use of the serum. In some cases this is experienced within three or four days. In the majority of cases, however, it occurs at the end of a week or ten days. In a few cases this is not experienced until much later, or until the dose is increased.

Greater importance should be attached to the inherent recuperative power possessed by individuals. We frequently meet with patients possessing such feeble resisting power that if tubercle bacilli ever secure a lodging in their tissues all means of remedy seem powerless.

I have frequently seen persons who have been sent to Colorado very soon after their trouble had been recognized, and I have found extensive tissue disintegration already in progress. Such persons can expect little either from climate or serum. It seems, therefore, that the only remedy in such cases lies in our ability to recognize the danger before the person becomes actually infected. Our only hope then lies in our ability to recognize the characteristic symptoms which exist before the disease becomes established, and then to artificially increase the diminished resisting power of the patient.

This brings us to the question of tuberculin test as a means of diagnosis. The advantage of the tuberculin test is two-fold:

1. It serves as a safe and positive means of diagnosis when bacilli are not to be found in the sputum or excreta.

2. It serves as a reliable means of estimating the degree of convalescence.

I wish to state in this connection that I have found the blood-count a greater aid to diagnosis in doubtful or obscure cases, than the study of the sputum.

EFFECT OF THE SERUM UPON THE BLOOD-COUNT.

In cases experiencing good effects of the serum, there is invariably an increase in the percentage of young lymphocytes of the blood. I have found no exception to this rule. On the other hand, in rapidly declining tuberculous cases, I have observed a progressive decrease in the percentage of young lymphocytes.

I have found no exception to this rule. From my own experience it seems to be the case that the more advanced the disease the lower the percentage of young cells.

Furthermore, it has been established beyond a doubt that the lymphatic system has much to do with cell genesis. Hence, since one of the first effects observed from the serum is an enlargement of the lymphatic glands in the region of the injected area, we infer that the serum in some manner increases the functional activity of these glands. I have also observed, from a weekly blood-count in tuberculous cases under the serum, that there has been an increase in the percentage of young cells in cases making improvement.

If we delay a diagnosis until bacilli make their appearance in the sputum, I am convinced that much valuable time is lost. All must agree that one of the chief points of importance in the study of tuberculosis is an early diagnosis. No serious consequence can follow a mistake made on the side of extreme precaution, while on the other hand, a mistake following an imperfect examination, or treating lightly the small signs of early beginnings, is always serious. I make it a rule to use the tuberculin test in all suspicious cases in which bacilli can not be found, before beginning treatment.

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VALUE OF MUSCLE TRAINING IN TREATMENT OF VOCAL DEFECTS.

BY G. HUDSON MAKUEN, M.D.

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PHILADELPHIA.

At the last meeting of this Section, I had the pleasure of reporting five cases of falsetto voice in the male and their successful treatment by means of direct muscle training. As considerable interest was manifested in the subject, I thought it might be well at this time to give a brief outline of the method employed, suggesting some conditions in which it may be indicated and explaining somewhat in detail its practical application.

Whatever may be the remote causes of vocal defects, the direct cause is always a faulty musculation in the vocal mechanism. The method of training hitherto used to correct this faulty musculation has been for the most part an indirect one. It has been an effort to develop the muscles through the medium of approximately correct tones, and the method of direct muscle training, independently of voice, has played but little if any part in the process.

This fact is probably a natural consequence of the popular opinion that the vocal or laryngeal muscles are essentially involuntary, and that they can not be brought under the domain of the will, and of that still more fallacious and popular belief that voluntary effort on the part of these muscles, even if it were possible, would be inconsistent with artistic vocalization. While it is true that the intrinsic muscles of the larynx are for the most part involuntary, we have found that the extrinsic muscles may be brought under direct control of the will, and, that the intrinsic muscles may be controlled to some extent indirectly by means of voluntary extrinsic effort. This volitional control should be abandoned as soon as its object, nervimuscular development and harmony of nervimuscular action, has been accomplished; and there will follow a speedy return to the normal automatic action, with all the machinery of voice in a much improved, if not quite perfect, condition. The framework of the larynx is composed of irregularly shaped cartilages articulating at their several points of contact by means of freely movable joints. Those muscles having their attachments only to these cartilages, and whose function it is to assist in the regulation of their relative positions, are called intrinsic muscles; and those running from the cartilages to various points without the larynx are called extrinsic muscles.

The study of intrinsic laryngeal action has been made possible by the introduction of the laryngoscope, and we are all familiar with the diagnostic points of intralaryngeal muscular defection as reflected in the mirror, but how little attention has been given to the action of the larger extrinsic muscles that are more easily studied and equally important in the production of voice.

The action of these latter muscles affects the voice in two ways: 1, by determining the position of the larynx to the adjacent structures; and 2, by determining the position of certain important parts of the larynx in their relation to other parts. The importance of a correct position of the larynx during phonation can not be overestimated, and although opinions differ somewhat on this point, it is probably true that this position should be one of close approximation to the spine, with the posterior surface or plate of the cricoid cartilage fixed against the fifth cervical vertebra.

Mr. John Howard, in his excellent book on "The Physiology of Artistic Singing," has shown that this laryngeal fixation is necessary for two important reasons: 1, it renders possible the tilting of the thyroid on the cricoid cartilage, for cord-stretching purposes; and 2, it furnishes the medium for the transmission of laryngeal vibrations through the spinal column to all portions of the body. Mr. Howard has also shown that the region of the fifth cervical vertebra, because of its comparative freedom from muscular padding and the forward convexity of the spine at this point, is particularly well adapted for contact with the larynx. Against the anterior surfaces of this vertebra the cricoid plate may be held firmly, and on it as a base, the thyroid and arytenoid cartilages may be moved with great accuracy and precision. The tilting of the thyroid cartilage is also almost wholly the result of extrinsic effort, and the degree of the movement may be determined both by observing the character of the voice and by direct ocular and tactile inspection.

Perfect extrinsic action, therefore, would result: 1, in a correct and fixed position of the cricoid cartilage; 2. in an accurate adjustment of the thyroid for every tone, and 3, in a favorable position and action of certain movable structures in the region of the pharynx—notably, the soft palate and tongue, to which these muscles are attached and of which they form a part.

It follows, on the other hand, that a faulty extrinsic action would result: 1, in the displacement of the larynx, either upward, downward or forward, removing it from its normal point of contact with the spine and impairing vocal resonance; 2. in an irregular and inaccurate thyroid tilting, interfering with the evenness of tone and accuracy of pitch; and 3, in a strained and un-

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natural position of the palate, tongue, and lower jaw, interfering with resonance of tone and precision of articulation.

When, therefore, a voice lacks resonance, it is owing in part, at least, to a faulty position both of the larynx and of the aforementioned movable portions of the pharynx; and when the tone lacks evenness, and there is some uncertainty as to pitch, we may look for imperfect movements of the thyroid cartilage and a faulty action of those intrinsic muscles that control the vocal bands—which latter faulty action, as well as the imperfect thyroid tilting, depends directly on defective extrinsic musculation.

Now, having shown that some of the most serious defects of voice, whether it be for speech or song, are dependent entirely on a faulty action of the extrinsic muscles, it remains to consider how this faulty action may best be diagnosticated and corrected. One object in the presentation of this paper is to offer a plea for an accurate diagnosis in defects of voice and direct muscle training as a means of treatment; to show that this method is possible and how it may be more rational and scientific than the one hitherto employed. In the first place, we must know the anatomy and physiology of the larynx and pharynx, the attachments of all the muscles, both intrinsic and extrinsic and the effect of the contraction of these muscles not only on the larynx, but on the resultant voice.

To carry the principle into the treatment of minor defects of voice and into the finer points of vocal culture, one would have to be an expert vocalist as well as a physiologist; but in the treatment of gross defects, such as come under the observation of the physician, the knowledge of vocal technic is not so essential. It is sufficient, having recognized the defect, to be able to determine on what condition of the larynx such a defect must depend. and furthermore, what faulty extrinsic muscular action can bring about this condition.

For instance, if we find a thin piping voice in a male. such as in my reported cases, we know we have impaired resonance and we look for laryngeal displacement; and as the pitch is too high, this displacement must be upward and away from the point of the greatest convexity of the spine.

In one of my cases, on examination externally, with the collar removed, the larynx was found to be nearly an inch above its normal position and resting on a thick cushion of muscles. There was a marked overaction of what may be called the levator laryngei muscles, which not only pulled the larynx upward, thus disconnecting it from the spine and destroying the resonance, but also assisted in tilting the thyroid forward, thus increasing the tension of the vocal bands and raising the pitch to a most unnatural key.

If, on the other hand, we have a lack of evenness of tone, we shall always find an irregular and spasmodic action of the thyroid tilting muscles, affecting also, as I have indicated above, the action of the intrinsic muscles controlling the vocal bands. Even the articulation of both the speaking and singing voice is greatly impaired also by a faulty action of the extrinsic larnygeal muscles. for the reason that some of the important muscles of articulation, the palatopharyngei for instance, and the hyoglossus and geniohyoglossus, have their lower attachments to the larynx.

As I have said, the normal action of the laryngeal muscles is automatic, and in the use of the normal voice in speech and song, there is little, if any, volitional control. This is as it should be, but when for any reason the normal automatic action becomes impaired, the surest, speediest, and most scientific method in many cases would seem to be to establish a correct action under volitional control for purposes of nervimuscular development and accurate co-ordination, and to continue this volitional exercise until the normal automatic action be re-established. Moreover, in the production of voice, all the laryngeal and pharyngeal muscles are in action, and vocal defects are quite as often the result of hypokinesis—too little action—as of hyperkinesis—too much action. The condition is similar to that of the eye, known as heterophoria, and the treatment should be along the same lines.

If, in our attempt to restore laryngeal balance, we are able by voluntary effort, independently of voice, to develop the weak, inactive muscle or pair of muscles, and thus make it of equal strength with the opposing muscles, we shall unquestionably remove the defect. The following are some of the muscles that I have found to be defective in action and subject to training by this method: the omohyoid, sternohyoid, sternothyroid—all depressor muscles; and the palatopharyngei, stylopharyngei, digastric, stylohyoid, geniohyoid and the hyoglossus—all levator muscles.

These muscles may be brought under direct control of the will either collectively or in pairs. There is a bodily sensation for the contraction of each one of these pairs of muscles, and one for the contraction of all of them combined. The sensation for the contraction of the depressor muscles of the larynx may be experienced by an effort to first fix the position of the clavicles and then to shorten the distance between them and the larynx without crowding with the tongue from above. The inner borders of the sternohyoid muscles may be easily felt by a finger placed in the suprasternal notch, and an effort to draw these borders together will cause an independent contraction of the muscles. A frequently-repeated effort of this kind will soon bring about the desired voluntary contraction, and when this is once accomplished, the development is only a question of time and practice.

The omohyoid is also a muscle over which voluntary control may be easily acquired. The patient is instructed to pull the shoulders backward and downward, thus making this muscle taut; and then with a finger placed on its posterior belly immediately behind the clavicle, to rock the head from side to side, when the movement of the muscle will be felt by the finger. In this way the sensation of its action may be appreciated and a voluntary control of the muscles, one on either side, may be acquired. The action of the stylohyoid may be controlled in the following manner: Grip the hyoid bone with the thumb and index finger at the junction of its body with the greater cornua, where the attachments of these muscles will be found, and then, with an effort to swallow, the muscles will be brought into action and will be distinctly felt under the thumb and finger. If we combine with the effort to swallow a slight sniffing of air through the nose, we shall eliminate, in part at least, the action of the palatopharyngei and get the independent action of the stylohyoid muscles. We then continue this independent action until it has been brought under complete control of the will. In a similar manner all the extrinsic muscles of the larynx may be controlled and developed. and I would suggest this direct muscle training as a valuable and scientific method, not only for the treatment of vocal and speech defects, but also for the training of the voice for singing or speaking.

DISCUSSION.

Dr. J. Homer Coulter, Chicago—I believe the doctor's paper practically controverts and contradicts much that has been said and written as to voice culture and voice production. He has thoroughly demonstrated a fact which the throat photographs I had hoped to show you to-day would demonstrate to be absolutely true, namely, that the extrinsic muscles are of great importance in producing the resonant and tone qualities of voice, and in giving character to the voice. I am thoroughly convinced from my experiments in photography during phonation, that we have heretofore overestimated the importance of the true vocal cords in the function of voice production, and to as great an extent have correspondingly underestimated the part played by the extrinsic laryngeal muscles. Not that there can not be and is not in many cases voice production without the intervention of these muscles, but to produce a clear, penetrating, resonant and maintained tone such muscles are necessary.

RELATION OF THE NASAL AND ACCESSORY CAVITIES AND DENTAL LESIONS.*

BY D. BRADEN KYLE, M.D.

PHILADELPHIA.

The abnormal and pathologic conditions of the teeth causing nasal obstruction and disturbance may be considered under: 1. Nasal or antral irregularities with secondary lesions of the teeth. 2. Irregularities in formation of the alveolar process, allowing the teeth to penetrate into the antral or nasal cavities, thus permitting the extension of diseased processes.

There is an important relation between stomatology and rhinology. The entire superior maxilla, both as to formation and structure, is dependent on and controlled by nasal lesions in early childhood while the facial bones are flexible and of partly cartilaginous union. Mouth-breathing, particularly during sleep, through increased external pressure both by the air—the internal resistance being lessened—and by the muscular action in attempts at nasal breathing, contracts the arch, causes irregularity in the teeth and a characteristic droop to the nose. The nasal orifice thus narrowed persists even after the cause of the mouth-breathing is removed and the degree of benefit expected by such removal may thus not be realized.

Whatever the cause, obstruction to nasal breathing in children and irregularity in development of the accessory cavities are usually found associated. Generally, bad nutrition, lack of vascular stimulation in the nose may be contributing causes. Cryer has demonstrated the great variation in size and shape of the antrum from a little larger than a pea to three times the usual size and extending under the floor of the nose.

Irruption of teeth into the nose or antrum, or diseased teeth affecting either cavity may be etiologic factors in many cases hitherto obscure. The period after birth up to the time when osseous union occurs is the proper time to correct nasal irregularities and deformities. Possibly the most important causes to be corrected are deflection of the septum and enlargement of the pharyngeal tonsil; the lymphatic temperament is to be considered in making a prognosis in the latter class of cases. Pressure on the face at birth, or placing the child in the same position for weeks, may be the starting-point of facial irregularity.

Irregularly placed teeth usually show a precedent nasal obstruction. This may have been removed or, in the case of the pharyngeal tonsil, may have atrophied in adult life, yet the altered contour of the face and maldevelopment of the upper jaw persists. Thumb-sucking causes a characteristic alteration in the superior maxilla and floor of the nose along the lines of the foregoing.

The failure, in mouth-breathers, for the upper jaw, ill developed to properly fit with the lower jaw whose development has not been interfered with, is noticeable, and the staring, open-mouthed countenance is partly due to the fact that the masseter muscles have been trained to allow the jaw to hang open instead of holding it closed, a position that persists even after perfect nasal breathing has been established.

I have seen several cases of pericementitis or phagedenic pericementitis of the upper incisor teeth separated by thin laminæ of bone, from a nasal obstructive lesion directly over them. The most plausible explanation of this is that the collection of secretion and irritation consequent on nasal obstruction has affected the underlying root and has forced the tooth down, thus bringing it out of the line of teeth into greater prominence. Now add a uric acid diathesis and there are present all the factors necessary to produce this condition. If instead of some general involvement, such as has been mentioned, the local irritation is kept up, there will be found at the root of the tooth new connective tissue which contracts and continues the pressure and irritation on the tooth with consequent pericementitis and sinus formation. Irregularities of the septum, especially spurs or ridges low down, are the nasal lesions most likely to affect the teeth. This is well illustrated by six cases. The first, a young woman of 18 years, with nasal obstruction, had an elongated incisor tooth, immediately under the nasal lesion, from which there was a pus-like discharge. Five other cases emphasized the fact that the tooth directly in the line of the obstruction and irritation was the only one affected. The reverse of this condition has been observed in a few cases, the nasal and antral lesion being due to extension from diseased teeth by continuity and contiguity of structure. Burchard of Philadelphia reports a case of alveolar abscess of a central incisor, with discharge from one nostril simulating ozena. He calls attention to the fact that the incisor foramen just behind the incisor teeth accounts for the pointing of these abscesses into the nose.

Irregularities in the formation of the accessory cavities will cause irregularity in the upper arch, and predispose to dental lesions as well as nasal disease. This is due not only to the nasal obstruction, but to the circulation in the nasal mucosa by the feeble air-current. Occlusion of the entire nasopharynx has also caused an irregular and malformed upper arch, the roots of the teeth almost penetrating into the nose.

The normal openings into the antrum vary in position and abnormal communication with other sinuses, particularly the frontal, and often prevent a cure by the mere draining of the antrum alone. The great variation of size, position and shape of the antrum, the thickness of the walls which thin with age, the presence of septa make definite rules as to puncture and transillumination impossible. Irruption of teeth into the antrum also shows an irregularity in development. A case was shown to me by Dr. M. H. Cryer of Philadelphia, in which, through an opening drilled into the cavity, we could distinctly make out an irrupted wisdom tooth. Similarly the teeth may irrupt into the nose, as MacCoy has shown, and may account for many of the peculiar neuralgias and apparently incurable catarrhs.

So in ozena, which in reality is only a symptom, the odor may come from a diseased tooth causing accumulation of gas into the antrum, with consequent escape into the nasal cavity, to which latter source the whole of the trouble is wrongly attributed. In the *International Medical Magazine* for December, 1898, I reported five

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such cases, under the title "Empyema of the Antrum," for want of a better term. The gases thus originating may be confined in the antrum by obstructive lesion of its outlet, or through failure to find exit until the cavity be filled, which accounts for the remissions in the symptoms. Four of the cases have obstructive nasal lesions whose only significance is the possibility of their being so located as to occlude the antral opening. The fifth case has no nasal lesion, relief being sought from the disagreeable and offensive odor alone. The symptoms vary, depending on the degree of occlusion of the antral opening. There is usually a sense of intranasal pressure gradually increasing in intensity. Pressure-pain is dull; heavy sickening headache markedly increased by stooping forward. Disturbance of the eye, nose and buccal functions may ensue. Percussion over the antrum may give a variation in resonance, although this is of little value, owing to the great variation in the size of the antral cavity. The diagnosis is not easy and may often be made only by exclusion. Transillumination is negative. Lesions of the teeth may call attention to their genetic influence. The history of dental irritation in this region, with subsequent cessation of pain and later development of pressure symptoms in the cheek, with ozena that is continued or interrupted, should always be regarded as suspicious. The systemic phenomena of the presence of pus are usually absent.

DISCUSSION.

Dr. F. J. Quinlan, New York City—I wish to emphasize the relation of the teeth to the upper jaw. It has occurred to me, as I have locked over the cases that I have had the last few years, that many children, including some adults, have deformities that could be eliminated much better if the post-nasal fossa were only relieved of any trouble that may be there. They are afterward crowded together and disturb, to a great extent anatomic arrangement that the Creator has ordained these parts should occupy. It shows us that all this class of cases should be seen early. The moment a face deviates from the normal, and the plane of symmetry is lost, the child should receive our immediate attention. Many cases result from the different deflections the Doctor has referred to, and pressure on the pneumatic spaces, which we know in time result in suppurative diseases. In fact, we know the entire arch is interfered with by faulty mechanism. The faulty contact between the upper and lower maxilla redisturbs the physiology of these parts, and we can readily see how the dentine and hard substances will be affected and these tissues become the seat of disease.

Dr. Geo. C. Stout, Philadelphia—Dr. Kyle entered so thoroughly into the subject that there is but little left to be discussed. There is one point in the etiology which is suggested by the slide showing the tooth in the antrum. I should say that this condition was due to the capsizing of the enamel organ, in utero, from trauma or some abnormal pressure, thus causing the tooth to grow upward instead of downward. This would also explain the cases in which teeth have been found in or on the floor of the nose in adults. Embryologic abnormalities then might be added to the etiologic factors in these cases.

Dr. H. W. Loeb, St. Louis, Mo.—I have been interested in the whole paper, but especially in two or three features of it, because it has been my fortune to see something of the nose and teeth in connection with a man who has done much to make odontology a science—Dr. Angle. Many children who have had adenoids removed, continue to have mouth breathing for some time, in spite of the fact that there is no longer any obstruction from adenoids or other nasal obstruction. The straightening of the teeth, to which I think the Doctor made a slight reference, relieves this. Dr. Angle emphasizes the fact that it is impossible to do anything by straightening the teeth before the adenoids are removed, but after the adenoids are removed this often gives relief. Then as to misplaced teeth in the antrum, a gentleman found a diseased tooth crosswise above the roots of the other teeth, and it excited such symptoms that the patient was treated for some time for antral disease. The symptoms subsided when the tooth was removed. Then if the ethmoidal cells are full of pus we may make a wrong diagnosis. I have made such an error. Having drilled into the antrum of Highmore, I found pus and secured some relief, but the symptoms continued. Some time afterward I evacuated pus from the ethmoidal cells and the antral pus disappeared.

Dr. G. Hudson Makuen, Philadelphia—The relation of the teeth to the maxillary antrum is an exceedingly important question. I once had a very painful experience illustrating this. After the trouble had lasted a day or two a little pus trickled down the side of the tooth, and in another day a little bloody serous discharge set up through the nasal cavity. I was confident that the trouble was due to a diseased tooth, although my dentist insisted that my tooth was all right and had nothing at all to do with the antral disease. It was only at my very earnest solicitation that he finally, on the fourth day, removed the tooth, and the antral disease was absolutely cured in two or three days. I was interested in this especially because it occurred in my own jaw, and it very clearly demonstrated to me some interesting facts in relation to the antral cavity. One of them was that although there was a good-sized passage beside the tooth into the antrum, through which a small probe or syringe could be passed, yet the antrum discharged from the opening up into the nose, notwithstanding there was an opening downward. I was surprised to hear one gentleman advise the removal of a sound tooth for the treatment of these cases. A diseased tooth may be removed, but we have other methods of treating the cases where the disease does not depend on a diseased tooth. To remove a sound tooth to treat antral disease seems to me to be bad surgery.

Dr. Carolus M. Cobb, Lynn, Mass.—During the last year I have been fortunate enough to see some very good X-ray pictures taken of unerupted teeth, and I think it is frequently possible to locate these teeth, and it saves at least a good deal of surgery if you are absolutely certain whether you have a tooth there or not. I have been very much interested in these pictures, and we have tried several times to take an X-ray picture of the accessory sinuses. I think we shall succeed in getting some that will be very satisfactory, and I hope at some time in the future to show some of them to you. We succeeded, with a very small plate, in taking a picture of one side of the jaw. This plate was three-quarters of an inch wide and an inch long. We have once or twice succeeded in putting the plate inside of the nose, so that we could take the accessory sinuses of one side only and not those of the other. But the method is not yet well enough developed to exhibit.

Dr. B. Alexander Randall, Philadelphia—As to the point just raised by Dr. Cobb, I would call attention to the dangers of trusting too much to X-ray pictures, even when we get them. I have sometimes been misled by them. For instance, an unerupted tooth was shown in the X-ray picture, but it was absolutely unlike the tooth when extracted, as to the formation of its roots and their relation to the antrum. It takes an expert to tell what we may conclude when we have an X-ray picture.

Then I would like to take a ground that may be considered reactionary and contrary to the general trend of opinion at the present time, in regard to the influence of nasal respiration on the formation of the dental arch and the eruption of the teeth. I think this subject has been overdrawn and the cart often placed before the horse. As Dr. Cryer has mentioned, it is about the sixth week of uterine life that the foundation is laid for the dentition, which will be largely responsible for the condition found in later life; and I have seen, clinically, much that wholly contradicts the violent assumption that slight differences of atmospheric pressure above and below the palate will change the shape of this bony arch.

Dr. D. Braden Kyle, Philadelphia—I am obliged to Dr. Stout, who called attention to the point in etiology which I omitted. In regard to Dr. Loeb's remarks in reference to nonerupted teeth, I tried to make a distinction between erupted teeth and those that penetrate. The one is a tooth that is out of place, while the tooth that penetrates is one that is too long for the jaw, or the jaw is too short for the tooth. In regard to the effect of nasal respiration on facial contour, there may be some question. But in over 90 per cent. of cases, where you have an irregular contour of the face you have irregularities in nasal breathing, and where you do not have irregularities in nasal breathing you do not have irregularities in the upper jaw.

THE SEMEOLOGY OF THE ATTITUDE AND MOTOR STATE IN CHILDREN.*

BY SAMUEL W. KELLEY, M.D.
Professor of Diseases of Children in the Cleveland College of Physicians and Surgeons; Pediatrist to the General Hospital.
CLEVELAND, OHIO.

The ailing child tells us little in words. Under 2½ years he tells us nothing of his symptoms. Even in children who talk, sensations are likely to be unnoticed or ill described or wrongly referred. Therefore, when we examine an infant or young child, we expect nothing from subjective symptoms. This makes it the more important that objective symptoms be closely studied and correctly interpreted by the pediatrist.

I would not be understood as belittling the importance of learning the history of a case. I have no patience with the self-confident clinician who places so much reliance in his own learned touch and omniscient glance that he scorns to listen to the history of a case, but proceeds at once to divine a diagnosis.

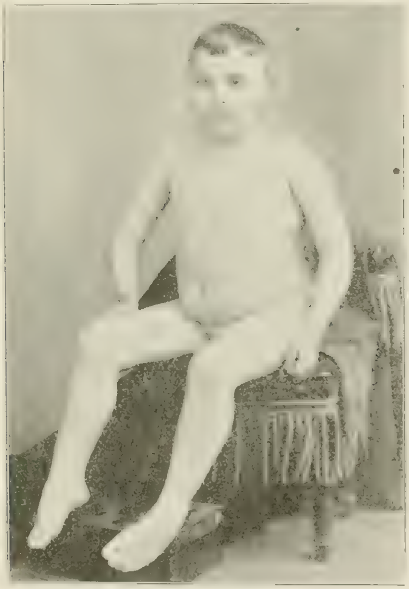

Figure 1

Much may often be learned from the child's attendant: his name, age, sex, heredity, residence, surroundings—as to hygiene—feeding, previous illness or injuries, onset and duration of the present illness, previous treatment; also the health of brothers and sisters and the prevalence of disease in the neighborhood. Information on all these points should be elicited as completely as possible. But sometimes in hospital or dispensary practice in our great cosmopolitan cities the mother is not present, or she speaks in some outlandish tongue; and nearly always the mother's or nurse's powers of observation are quite limited, and when the patient is too young to have made articulate complaints at home, we get but a limited history of the illness. Thus we are compelled to fall back on the objective symptoms.

It is a time-honored and useful custom to feel the patient's pulse, and a matter of routine to inspect the tongue. Most practitioners perhaps make mental notes of his color and the state of his nutrition. I need not pause to enumerate the whole list of signals by which the organism attacked by disease appeals to us for help, nor is it necessary to precisely fix their relative value; but I wish to put the question: Do we take full advantage of all the objective symptoms and give to each the attention and the value which it should have?

Of all the objective symptoms of disease, I know of none so much watched and relied on by the doctor of to-day as the body temperature. Certainly temperature is an important symptom and well worth watching. But it is not the only figure in the group which makes the picture of disease; though I very much fear that in the view of many physicians the temperature looms up in the foreground so big that all else is either hidden or dwarfed by comparison. The secret of the popularity of this symptom is the clinical thermometer, and the ease of its use. If the stethoscope could recognize and record its findings it would be a much more popular instrument. If the sphygmograph is ever made as simple as the thermometer every doctor will carry one in his pocket and not even trouble himself to feel the pulse. The modern doctor is influenced by the spirit of the times and wishes to be scientifically accurate. It is easy by the aid of a mechanical device to ascertain the temperature with scientific accuracy. But unless the doctor is well trained, systematic and patient, that is about the only accurate observation of symptoms that he does make. I do not decry the use of the thermometer, but that the investigation stops there.

There are other symptoms of disease equally important, and in some cases more important, and equally trustworthy as guides to him who can read them aright. Among these are the attitude and motor state, which are almost inseparably associated.

I wish to formulate a few general principles and also some particulars which will, if true, illustrate the truth of my assertions on the value of these symptoms and draw attention to their importance.

The attitude and motor state are in general more reliable indices in the child than in the adult and in the infant than in the older child. The younger the young patient is, the less are the attitudes and motions dictated by fashion, altered by customary occupation, influenced by habit or affectation, or assumed with the intention of deceiving. They may be modified by bashfulness or fear.

The attitudes and motions of a well child are graceful and easy. If you will allow the expression, even his infantile awkwardness is graceful. Conversely an uncomfortable or restrained attitude or constrained or awkward movement indicates disease or injury. This does not locate the trouble, but should excite our attention and lead to closer scrutiny.

A well child is active while awake and rests quietly while asleep. Conversely, if the conditions are reversed, and the child becomes inactive while awake or restless during sleep something is wrong with him. Curiously enough, his less than normal activity in the waking state may pass unnoticed by the parents for some time, or be forgotten when one inquires into the history of the attack. But an uneasy night's sleep, during which the child tossed and turned and disturbed the mother or nurse, is not apt to pass unnoticed nor to be forgotten; and as Meigs and Pepper long ago pointed out, it may be the most certain symptom by which to fix the date of the onset of the disease. But this does not indicate the nature of the attack.

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*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Constitutional diseases affect the entire motor state. Local diseases, excepting those of the nerve-centers affect motor states locally; or they may affect remote parts of the entire physique sympathetically or reflexly. When a local trouble begins to affect the general motor activity it has begun to affect the entire organism, and other constitutional symptoms will be found if searched for.

If you are called to see a child agitated by a general convulsion, you immediately run over in your mind the classification of convulsions and look for other symptoms which will enable you to determine whether it is idiopathic, symptomatic, sympathetic, toxic or thermic. On the other hand, if you find him in a state of general muscular relaxation you know that he has either brain disease or extreme prostration.

When we find that the patient insists on sitting up or reclining against high pillows, we at once suspect heart disease, although it might be asthma or pneumonia, or a double pleurisy with effusion, or even tonsillitis or bronchitis.

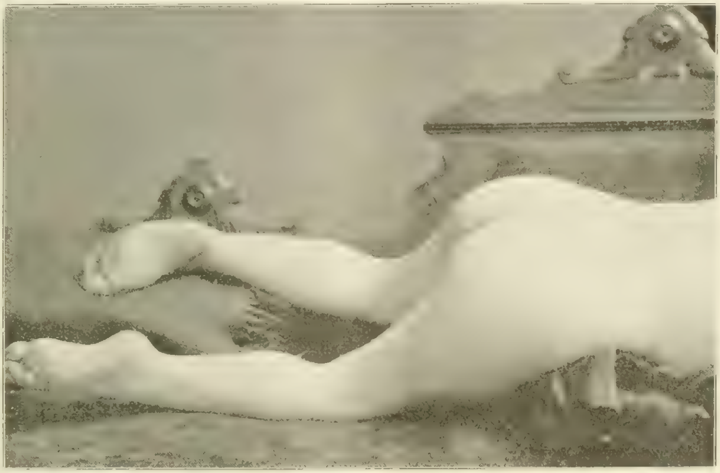

Figure 2.

When a patient with high temperature and muscular and mental apathy resumes his muscular activity, you know that he is better otherwise. As temperature goes down temper comes up, and with it greater muscular activity. The little patient reaches for and plays with toys which before failed to attract his attention, or he seizes and throws them away, and reaches for something else or tries to go after it. He is better.

When a child which has been sick for some time begins to toss about on the bed, constantly changing position and at rest nowhere, it is a semeion of evil. In the eruptive fevers it may mean the onset of some complication. In croup or other disease of the respiratory tract it indicates very grave air-hunger. If there has been hemorrhage it shows extreme anemia. In all cases it heralds the approach of nervous exhaustion.

You are all familiar with the little sufferer from whooping-cough, and have seen him grasp his mother's clothing or chair or any object near, as soon as he felt the approach of a paroxysm of cough, and hold it fast until the paroxysm passed. Even in severe pneumonia of bronchitis the child does not execute this maneuver, and indeed, in that condition which clinically most resembles whooping-cough, viz., enlargement of the tracheobronchial glands, I have no recollection of ever seeing this apprehension of the approaching kink of coughing and preparation for it by running to a support, clinging and holding on. Have any of you observed this in any other disease than in whooping-cough?

If the child lies on the back and cries whenever touched or moved, one thinks of pleurisy, inflammatory rheumatism, peritonitis, scurvy, pseudoparalysis, extreme rickets, and it is more likely to be one of these than any lesion of the nervous system.

In the child, lying on his back with his legs drawn up we suspect peritonitis; but it might be a distended bladder, or hernia. If he draws up his legs to lash out again and twist and turn himself, he likely has irritation and pain, but not inflammation.

An attitude on the side, with the extremities in the position of the fetus *in utero*, but with the head retracted, is often seen in the late stages of tubercular meningitis or other intracranial inflammation.

If the child is lying on his face, or is kneeling with his face in the pillow or persistently toward the wall, we suspect inflammation of the eyes or of the brain or its membranes.

If the child persists in nursing from the breast or in lying only on one side, we look for pleurisy or pneumonia in the lowermost side. But if the pleura becomes distended with fluid, the child may turn and prefer the dorsal decubitus, though perhaps still turning the head toward the affected side.

When the patient with empyema, or on whom thoracotomy or resection has been performed, refuses to lie on the affected side it is because the drainage tube is too long or the dressing pads about it not properly placed, or the pillows are so arranged that the wound is drawn asunder.

The retracted head we are all familiar with as a symptom of meningitis, but it may accompany cerebellar tumor, diphtheria, pneumonia, or even typhoid fever.

With caries of the cervical spine and retropharyngeal abscess, also, there may be rigidity of the cervical muscles. The opposite of this—the head lolling forward on the breast, is seen in paralysis following diphtheria.

Opisthotonos in spinal meningitis or tetanus is well known, but one should bear in mind the possibility of strychnin poisoning. This reminds me that I have more than once seen an immovable lower jaw with high tension of all the muscles resulting from overdosing with nux vomica prescribed for the child as a tonic.

The locked jaw would compel one to consider trismus nascentium and tetanus.

The domain of nervous diseases proper is too large and too intricate for this paper, but I will venture on a few outlines.

It is not common to see in childhood hemiplegia with its lack of knee action and its dragging or circumduction of the lower extremities in walking. The high-stepper with locomotor ataxia is never a child; but the drunken reel or uncertain walk of cerebellar diseases may be seen in childhood. The shuffling walk and scurrying run of the idiot or imbecile child are recognizable on sight. We may find one or more extremities more or less useless, in fact paralyzed, and the questions arise: Is it due to some injury at birth or did it come after birth? Is it peripheral, spinal, or cerebral in origin?

The date of the beginning of the trouble, as given by the parents, is often fallacious; for they may have discovered nothing amiss till the child essayed standing or walking, when they suddenly noticed that something was wrong and imagined it came suddenly. If the paralyzed limb is flaccid the trouble is either peripheral or spinal. If it is spastic or rigid we expect to find other evidence of its cerebral origin. But a rigid muscle or set of muscles is not always due to nervous disease, neither local nor central, but is Nature's effort to immobilize inflamed tissues adjacent, or as we say, results from reflex action. Witness the board-like abdominal muscles in peritonitis and the muscular rigidity which cause the thigh and pelvis to move as one in morbus coxarius.

If a single arm appears paralyzed in a new-born infant, very likely it is a birth palsy; but before concluding that it is due to injury of a nerve alone, it is well to examine closely for fracture of a clavicle or separation of the upper epiphysis of the humerus, which may either simulate paralysis or be associated with it.

If an older child refuses to use his hand or forearm, and we find nothing wrong with them we may discover that his collar-bone is broken. Or he will not put his foot to the floor and after a while it is found that he has psoas abscess, pericecal inflammation, ureteral calculus or a hernia. As to the knee-jerks, it is easy to remember that they are diminished or absent in paralysis of spinal origin, for the spine presides over the reflexes, and is increased in those of cerebral origin; the brain can partly control the reflexes, unless it is impaired.

Speaking generally, the muscular movements elicited by electricity are unchanged in cerebral palsies; but show alteration in the spinal palsies, being diminished or lost in destructive disease of the cord, and increased if the cord is only irritated but not destroyed.

Paralysis of the side of the face at birth is due to pressure on the facial nerve, probably by the blade of the forceps; but facial paralysis in an older child is most likely caused by ear disease.

Fothergill likens the "duck-like walk" or waddle of pseudohypertrophic paralysis to the walk of the reel-foot or double talipes varus.

I present here photographs of a case of pseudohypertrophic paralysis so extensive and so extreme that the boy was scarcely capable of muscular exertion at all. As you see, he looks a very Hercules, but when lying prone he could not turn over without assistance; and he could not raise either hand as high as his mouth without using the other hand to elevate the elbow.

Allow me to remind you of the difficulty of distinguishing, in the infant, between paralysis and that which Fothergill called "the muscular listlessness of malnutrition;" and let me especially advise care in differentiating between true paralysis, the pseudoparalysis of scurvy, and the acute epiphysitis of hereditary syphilis. I have seen the pseudoparalysis of scurvy mistaken for acute poliomyelitis; and I have seen syphilitic epiphysitis mistaken for paralysis and for traumatic separation of the epiphysis. Certain complications can be extremely puzzling, for instance, arthritis following scarlatina without eruption, and accompanied with convulsions, in a child afflicted with scurvy.

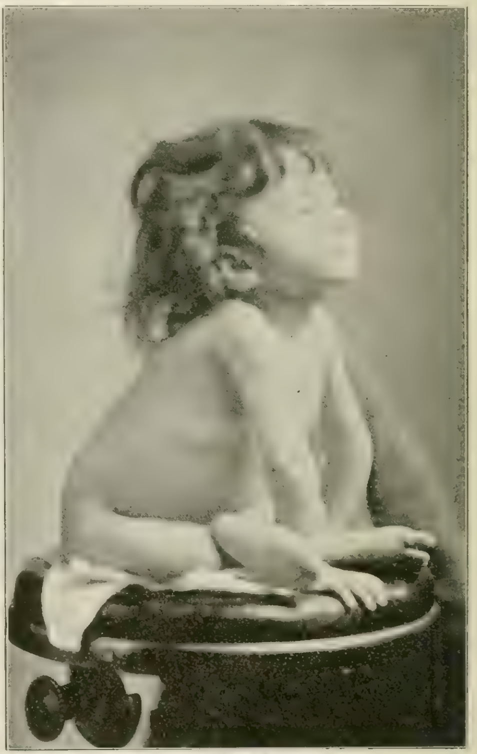

Figure 3.

Muscular as well as mental apathy, listlessness, or aversion to exercise characterizes the rachitic. As I see these little victims of rickets sitting about in the homes of the poor, in hospitals or infant asylums with their big abdomens and slim legs, and their solemn eyes winking seldom and slowly, they always remind me of toads. The illustration of one of these little "human toads" shows the resemblance. Such children dread to be handled or moved, and they move as seldom as possible, voluntarily. How sadly different from the buoyant, eager, ceaseless activity of healthy childhood!

I have not even mentioned the irregular movements of chorea, the movements of the alæ nasi and the accessory muscles of respiration, in laryngeal and pulmonary diseases; the attitude and motor state characterizing hip-joint disease and simulated hip-joint disease, of tetany, spinal caries and curvatures, the various fractures and dislocations, diseases and injuries of bones and joints, limp from strain or old fracture, Kernig's sign in meningitis, and a score of other symptoms diagnostic or pathognomonic will occur to you, and I hope suggest to one of you to write a good monograph on the subject. I may be wrong in some of my statements, and if so hope to be corrected. But I think enough has been said to demonstrate the importance of the subject for further study and for daily use in practice. I do not for a moment decry the use of all the modern instruments of precision and new methods of investigating disease; for I believe in and use them all; but I wish to draw your attention to the fact that there are methods always open to the physician's unaided powers, which he always has with him in country or in city, day or night; and that these lines of investigation are not only perfectly reliable, but can be advanced by further study.

DISCUSSION.

Dr. C. G. Slagle, Minneapolis, Minn.—My experience has been that diagnosis in diseases of children is the most difficult of all departments. We will never get old enough or experienced enough to prevent making mistakes in diagnosing these cases. This is particularly true of children under 2 years old, in whom our diagnosis must be largely based on objective signs. For instance, in typhoid fever and some forms of meningitis in young children, it is exceedingly easy to make mistakes in diagnosis. We have recently had, in Minneapolis, an epidemic of a peculiar form of disease that began in such a peculiar way that any physician would hesitate to decide whether the case was one of typhoid fever, with brain symptoms, or true meningitis. In a series of six such cases, coming under my observation, one proved to be true meningitis, and the others typhoid fever. While I was puzzling over these cases I happened to read an article by Dr. Louis Fischer of New York City, in which several cases were reported of what he called "meningitic typhoid fever." This description tallied exactly with that of our cases. When these meningitis symptoms passed away, the typhoid fever was apparent. This error in diagnosis may possibly be guarded against by the use of the Widal test, but I am discussing a paper restricted to clinical diagnosis. I have studied the subject of diagnosis very carefully, and presented it to this Section in a paper at Atlanta, Ga. There is one very striking thing, and that is the remarkable talent a few men possess for making diagnoses, notably Da Costa.

Dr. H. E. Garrison, Dixon, Ill.—This is, to my mind, an exceedingly interesting paper, because of its practical value. We practitioners in the country do not meet with many cases of severe sepsis, or with many complicated cases of germ disease, and can usually allow the germs to finish the war, but we do have numerous illnesses to treat, and we feel greatly helped, therefore, by a paper of this kind, which in condensed form gives us something practical in diagnosis. When it is published in the Journal I shall frequently refer to it for aid in classifying symptoms.

Dr. S. W. Kelley, Cleveland, Ohio—I wish to emphasize the point that we must not forget how to use our hands and our eyes, and how to interpret what we find, even though we may have many instruments of precision to assist us. I have a profound regard for the diagnostic skill and acumen of some of the old clinicians.

Dr. Sussdorf, for the last two years resident physician of the City and County Hospital, San Francisco, Cal., has resigned his position, and Dr. D. A. Hodghead been appointed. The change was made for purely political reasons.

EMERGENCY SURGERY, WITH ESPECIAL REFERENCE TO WORK IN HOMES OF THE POOR.*

BY R. C. DUGAN, M.D.

EYOTA, MINN.

We have all heard the remark, and perhaps made it ourselves: "If we had the case in a hospital we would have operated, but could do nothing under the existing circumstances." The marvelously rapid improvement in hospitals and hospital equipments has made it possible to do a class of surgery that would be all but impossible in private houses, especially in those of the poor with small and perhaps dirty rooms. But, if we accept the responsibility of the care of the poor at all, it is our duty to do the very best for them that circumstances permit.

Schiemelbusch and many others have shown that wound infection is caused by direct contact, and that we have little to fear from the air, unless large quantities of dust are flying. If, then, we carry with us, as we can, in a not very large satchel, previously-sterilized towels, sponge, pads, dressings, etc., we can do clean work almost anywhere that we can find a fire over which to boil instruments and heat water for toilet purposes.

In an attempt to become as near independent of surroundings as possible I have arranged my emergency satchel somewhat after the pattern of McFatrich.

In loops on the side of the satchel are bottles for ether, chloroform, alcohol, needles, rubber tissue drains, iodoform duster, safety pins, also in a bottle, one yard of iodoform gauze, and in a pocket at the end of the satchel a large fountain syringe and tin box containing dry sterilized catgut, silkworm gut and a couple of wire saws.

In the body of the satchel I have an Esmarch bandage and Esmarch inhaler, instrument roll, containing the ordinary emergency instruments, and am particular to have plenty of hemostatic forceps, and sterilized towels and dressings prepared in the following manner: A package of six or eight towels; a package of cotton with box and paper removed, rolled in a towel; twenty or thirty gauze pads for sponges, in another towel; plain gauze cut in five-yard or six-yard pieces, folded twice and rolled up like a bandage. This puts the gauze in a very handy shape for either dressings or bandages. And in doing abdominal work, packing can be run off from one of these rolls after the manner of Deaver's continuous pack, thus avoiding the danger of leaving sponges in the abdomen. These dressings are put in Boeckmann's sterilizer for two hours, then packed in the satchel. Being in separate packages allows the opening of one without disturbing the rest, and if one becomes contaminated it can be thrown aside and a clean one opened.

Strapped to the bottom of the satchel is a double pan for boiling instruments, and on one side a piece of table oil-cloth. As to an operating-table, an ordinary kitchen table folded up and the patient's legs over the end on a pillow on a chair does first-rate for any operations above the knees, and in abdominal work, if desired, the Trendelenburg position can be had by dropping the patient's legs off of the chair and putting some blocks of wood under the table legs, or by turning a chair upside-down on the table, with a quilt on it, and allowing the patient's legs to hang over the lower round of the chair, as described by Mixter.

This outfit is within the reach of any country practitioner, and I do not think that environment ought to be an excuse for lack of surgical treatment of any case of depressed fracture of the skull, penetrating wounds of the chest or abdomen, appendicitis or intestinal obstruction from any cause, including strangulated hernia, and in any case of hernia operated on an attempt at radical cure should be made.

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Senn says all accidental wounds should be treated as septic wounds, and they are, I think, often best treated with moist dressings. For illustration, take a railroad crushing injury to a hand, covered with grease and dirt. After being scrubbed as clean as possible, if flaps are made, sutures placed without tying and the wound packed with moist boric gauze, a moist boric dressing outside covered with rubber or oiled silk protective, the patient or nurse given a bottle of boric acid solution with directions to keep moist through a hole in the protective, it may in a couple of days have the dressing removed and sutures tied with good clean union. On the other hand, if there had been immediate closure and dry dressing, we might have had extensive suppuration.

Wounds already suppurating may be treated with moist dressings in the same manner; or, if deep, and requiring packing, gauze packs dipped in balsam of Peru and castor-oil, as suggested by the late Dr. Van Arsdale, quickly check suppuration and stimulate granulation so that in a short time, even in quite deep cavities, the packing may be left out and closure allowed. In wounds which do not need wet dressing, but require drainage, I prefer the folded rubber tissue of McBurney, to tubes, as it does necessitate removing as early, and does not leave as much scar as when tubes are used.

DISCUSSION.

Dr. Brown of Illinois—I have had a limited experience in surgical practice, but I can demonstrate that ovarian tumors can be removed in the bedroom of a patient at a farm-house; that cases of tubercular peritonitis can be operated on in the same way, and that abdominal hysterectomies can be performed in the farm-house—in the ordinary farm-house—I do not mean the worst or the best. Many of those operations can be performed in the country, and are successful. Surgical cleanliness can be obtained. We people who practice medicine and are called out to the last house at the end of the road, meet cases there of obstetric surgery, and cases recover—because we didn't kill them; there might be a power behind us. They do not all die, and some of them are in the gravest possible condition, which proves that the country doctor can perform aseptic operations, perhaps, if not as often, sometimes as well as some of our more able city surgeons. What I wish to demonstrate is that these things can be done and are done by the country doctor. There is no question about it. It is done more to-day than yesterday, and so on, and will be done more to-morrow than to-day. The hospitals, of course, are the ideal places for these operations under certain circumstances, and still I make this the question right here, that I believe that the ordinary farm-house in the country is preferable to the average city hospital for any kind of surgical work. I believe the environment, the atmosphere and everything surrounding it is better. You do not get that abominable hospital smell in the farm-house! There might be nothing in it, but it is possible that if some of you scientific gentlemen would make cultures of it, all sorts of animals would be found.

Dr. H. M. Sherman, San Francisco—I wish to add a memorandum regarding the sterilization of instruments at home, and then taking them to the place of the operation. With a fairly complete supply of properly sterilized dressings and suture materials provided by commercial houses, the instruments and the hands are practically all the surgeon has to personally sterilize: The instruments to be sterilized are first wrapped in a clean towel, and in this wrapping they are boiled in the soda solution; when they are taken out they are permitted to drip a few moments, and, the first towel being not unwrapped, other dry towels are put around them, and finally the roll is wrapped up in a rubber cloth. In this shape it can go into the hand satchel, and the instruments will remain hot for more than an hour. The boiling must not be done in any kitchen utensil, but in a special kettle, in which there is no oily residue from cooking. The plan is simple and efficient. If the operator uses gloves, they can be included in the roll with the instruments, but they must not be boiled with them. Rubber stands boiling best if it is in a boric-acid solution, and the gloves, in a separate napkin, should be boiled by themselves, and after the boiling included with the instruments in the roll.

Dr. James T. Lawless, Toledo, Ohio—There are one or two suggestions that I would like to add in the matter of sterilization of instruments. It makes no difference where you operate if in a clean place—hospital or country home. The point is—the cause of infection is—the physician's hands, the instruments, dressings, and the field of operation. The hands should be cleansed, and the seat of the wound should be thoroughly sterilized. You can use an oven to sterilize your dressings; they should be sterilized at the time—not a day before or an hour before—and brought to the bedside in that condition. Sterilize your towels and put them around the place of operation. If all hospitals are like the Columbus Hospital they are fit to operate in. We have a little hospital in the town where I live that is fit to operate in. Hospitals have these advantages: properly trained nurses and all the conveniences are at hand; you have no delay. These operations can be made in the country, and should be made, as patients can not always be transported, but the hospital, always remember, other things being equal, is the proper place. Still, no country practitioner would do his duty if he failed to operate on appendicitis or depression of the skull or anything of that kind for the reason that he could not do it aseptically. It does not make any difference whether he has a particle of bichlorid or any other antiseptics. He can do it aseptically, if the wound has not been infected.

Dr. Rosenthal of Missouri—For the benefit of Dr. Dugan, I would say that I generally do most of my surgery in the country. About ten years ago I was called into the country to trephine a negro who had been knocked in the head, and it was done in the woods. We had to lay a plank in the corner of a rail fence, and I had very few antiseptic measures with me. But I operated on him and removed two and a half inches of the skull, and he recovered.

Dr. R. C. Dugan, Eyota, Minn.—In regard to sterilization of instruments at home, of course, that can be done, but there are very few places where I have been that a man could not find a fire and hot water, and I would rather take the instruments off the stove boiling than handle them over. That is one of the things about sterilization of dressings beforehand that I was shy of. If they had been in the sterilizer two or three days before, I would take the pads to be used for sponges, throw them on the instruments and boil them at the time of operation. The Doctor spoke of sterilizing dressings at the time. That is one of the things that would be very desirable and could be done in the hospital, but can not be done very well at the bedside in the country. That is one of the points I meant to bring out in the paper: that these things could be done in the office, sterilized towels could be carried along, and you could be independent of the place of operation. I do not mean to infer that there is as good work done in the country as in the hospital. If the hospital is convenient, all such cases should be removed there, but good work can be done independently of our surroundings, if we are properly prepared for that kind of work.

THE PROPER PLACE FOR PROPRIETARIES.*

BY J. F. BEERY, M.D.
COLUMBUS, OHIO.

Should one designate to the medical profession that proper place as being at the bottom of the deep blue sea he would, no doubt, strike a responsive chord and receive from its members—especially while in each other's presence—a most hearty approval; and yet, I fancy, should such an edict be ordered and executed, that after the great circle of illumination had climbed the distant mountain, and the moon, in shame, had turned her brilliant face the other way, there would scarcely be diving or fishing room on the great high sea, for the divers and fishermen who would be there seeking their favorite remedies and indispensable specifics. In other words, allow me to make the broad assertion, and I make it without fear of successful contradiction, that proprietary remedies are in existence to-day, and used many times to the exclusion of the old reliables, because the medical profession wants it so. In fact, very few patent or proprietary remedies become famous, and hence profitable to the manufacturer, if not endorsed by the medical profession. Not by the leaders of the profession, but by that numerically larger class whose title of "M.D.," in the minds of the masses has a similar significance, and who on occasions of this kind and in society work generally are conspicuous on account of their absence. But as I have rather strongly hinted that some, perhaps all of us are users of proprietary remedies, let us give them an impartial hearing and consider the various phases of the question before deciding either publicly or privately as to their "proper place."

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*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

What are proprietary remedies? We have, as a gross distinction, on the one hand, commercial medicine with its widely advertised secret nostrums, and on the other scientific medicine, with its well-known officinal list of the tried and true. And if the chasm between these two extremes were left thus wide and deep, no sane man would ever think of trying to bridge it.

But the pharmacist, who was once the physician's servant, and who did well to thus serve, either from mercenary motives, or being discontented with his lot, is trying to enslave his former master by putting on the market and on the profession an unlimited number and variety of preparations, to master the half of which would require the lifetime of a Methuselah and the wisdom of a Solomon. But let us be honest and "give the Devil his dues." Some of these preparations are of inestimable value, and did we hew close to the orthodox line, we would deprive suffering humanity the kindly visitation of many a welcome guest. Acetanilid, with its co-workers, for instance, has become a formidable rival of opium and its alkaloids. But, on the other hand, were we to indorse the multiplicity of remedies whose literature fills our waste-baskets and samples of which grace—or rather disgrace—our sewers, suffering humanity would be forced to believe that all the devils that had ever been cast out of the swine—and other people—had been turned loose on them.

Now, where shall we draw the line as to what to use and what not to use? There is no line to be drawn, except as each individual physician draws it for himself, and the appropriateness of the drawing will depend on his individual education and judgment.

Acetanilid, the proprietary name being antifebrin, occupies a place of honor and distinction in the professional armamentarium. Antipyrin was once a patent medicine, but its virtues induced the "British Pharmacopeia" to place it in respectable company by making it an officinal remedy. Salol, a remedy in which the profession takes great pride and of which its praise has been almost universal, though it bears the revenue stamp and date of patent on every bottle, has had its respectability nationalized by the "American Pharmacopeia."

A certain coal-tar product whose skeleton-bedecked calendars are indicative to the ethical profession of the havoc it has wrought, is but the prototype of a formula that has become famous the world over, namely, acetanilid, 70 per cent., soda bicarbonate 20 per cent., caffein 10 per cent.

A certain rheumatic remedy whose advertisement in the medical journals has attracted the attention of the profession to whom it is exclusively advertised (so they say) by the striking figure that accompanies it, is in itself unique. The manufacturer evidently meant to convey the idea of pleasantness to take and the general effectiveness of the remedy, by the pretty female figure attractively clad, and the smile on the old gouty gourmand's face. But to the ethical physician it tells a different story. Still, if the remedy came to us in the orthodox way, who of us could condemn it? We are told, in justification of the use of these remedies, that their formulæ are known, especially their chemical formulæ. So also are known the chemical formulæ of the proprietary preparations, some of which are a yard long, representing prescriptions of the "shotgun" variety. What cares the physician for chemical formulæ when he is ignorant of the physiologic action of the drug? Physicians are not chemists and, beyond the work of urine analysis, etc., should not be. The physician who spends his time deciphering chemical formulæ has but little time to practice medicine. The object of publishing these formulæ is not to enlighten but to deceive, to give the appearance of respectability to the product in question that it may be endorsed by the medical profession.

Why is it that the profession, in spite of the multiplicity of excellent text-books on materia medica and therapeutics and proficient medical journals devoted to the subject, will use and endorse proprietary remedies? The answer is clear:

1. Because the manufacturers have put some remedies into the hands of the physician, which are jewels, and which the profession would be loath to give up under any circumstances.

2. Having had the endorsement of the profession, of these remedies, others are produced by less reliable manufacturers because of the millions there are in it. And it is simply impossible for any one man to investigate all of them, so he must either reject all, or use the ones that appear to him the most valuable.

3. And, last but not least, because of the shiftlessness of that portion of the profession who are inclined to practice medicine with a formulary rather than dig in the scientific gold mine. The literature (?) and free samples, furnished by the manufacturer, make their arduous labors (?) less irksome still than the formulary. Then in connection with all this the ingenuity of the advertiser is most potent. Many able medical journals sell their advertising space to the highest bidder, oftentimes regardless of the character of the matter he puts into it, and advertisements are made to read like scientific articles, so that the reader must be wide awake and up to date or be deceived, despite the fact that

> Of all hard things to bear and grin,
> The hardest's to know you're taken in.

And then many of these manufacturing establishments publish medical journals (?) of their own, varying in character all the way from an out-and-out-advertisement of the products they make, to a fairly respectable scientific publication. Many of them contain leading articles from reputable men, without any reference whatever to the drugs manufactured. That gives their journal a respectable appearance and is intended to gain the confidence of the medical profession. That confidence once gained it is an easy matter to sell goods. They offer medical men a cash price for these articles, and those members of the profession who have more brain than gold—and are eager to exchange that of which they have the greatest abundance for that of which they have the greatest need, accept their offer, and hence we have in these publications some very creditable medical literature.

Is it not about time to inquire, "whither are we drifting?" If this push and enterprise and commercialism and deception of the manufacturing chemists continues in the future as it has in the past few years, *they* will be prescribing for our patients and we will only be their "agents" and "pill peddlers." The plea on their part is to relieve the "busy practitioner" of his labor. But that kind of relief will make the physician a dwarf. Do his prescribing and he will become careless in diagnosis. In fact, this multiplicity of remedies presupposes diagnosis in many cases, and treatment becomes mechanical. All this prevents research, and lack of research leads to shallowness. We are already losing our prestige and professional dignity with these manufacturers, as is plainly demonstrated by the character of the literature with which they insult us. They claim to advertise their preparations to us alone, and yet go into the minutiæ of description as to uses, dosage, etc., "that a wayfaring man though a fool" is able to appropriate them to their intended uses. Even their agents who call on us at our offices, presume to know what we want better than we do ourselves.

If we allow ourselves to suffer these indignities now it will only be a matter of time when the laity will lose its regard for the profession, and scientific men will be reduced to the level of commercialism.

What is the remedy? Liberal doses of the only specific known to the medical fraternity and at the same time the only universal antidote that will destroy the virulence of all evils, viz.: *education.* Make the preliminary training in materia medica and therapeutics in our colleges more thorough. Give at least as much time to those branches as is given to anatomy. The average time given anatomy by our medical colleges is five hours per week, while but three hours per week are given to materia medica and therapeutics combined. Reverse that order, or at least make them equal, and the formulary will have a limited sale, and the literature of secret nostrums will find its legitimate way to the waste-basket unopened.

And then let us make the National Pharmacopeia Board responsible, by using only such remedies as they may advise. Instead of one meeting in a decade, let it meet annually, and map out for our overburdened profession the road which it should travel. Not that they should do our thinking for us, but that their deliberations, annually revised, may be an aid to the profession at large in finding the few precious stones that may be imbedded in the sandy shores of the great sea of commercial medicine. I would therefore commit the use of proprietary remedies to the care and keeping of the National Pharmacopeal Board, supported by an intelligent and educated profession.

802 West Broad Street.

INJURIES TO THE EYES FROM ELECTRIC-LIGHT FLASH.

BY WILLIAM H. FOX, M.D.
WASHINGTON, D. C.

Injuries from electricity are becoming more and more common, as its use extends in all directions. The eyes are often implicated in these injuries, and give a peculiar train of symptoms, which are more or less characteristic. Many names have been given to this condition, but the best seems to be that used by Ljubinski[1], "Ophthalmia photo-electrica." We may look upon this subject as presenting two points of interest to the physician: The prevention of these injuries as far as possible, and their relief when they occur. I shall not discuss the question of the ordinary use of electric light and its effect on the eyes, but only such cases as have been exposed to more or less intense action of the light, and where the symptoms are so striking that there is no question as to the cause. Such cases are found among electric workers, or spectators at electric welding, etc., who have neglected to properly protect the eyes. The following case taken from my own practice, may be considered typical, therefore I give it in full:

While E. F. (my patient) and another man were working on a storage battery plant on the afternoon of Dec. 5, 1897, the current was short-circuited. There was a blinding flash and an explosion, the current being of 500 voltage. The man at fault was badly burned and received medical attention at once, but my patient was only temporarily blinded and otherwise felt no ill effects at the time. He continued his work for the remainder of the afternoon as usual. On returning home he had his supper and read the evening newspaper without difficulty. On going to bed his eyes felt a little uncomfortable, but there were no marked symptoms. At 11:30 p. m. he was awakened by intense pain in his eyes and head, and he was unable to open his eyes on account of the pain and photophobia. I saw him at midnight, when his condition was as follows: No marked injury to the face, eyelashes not burned off, eyelids only slightly swollen, right a little more than left, lids tightly closed. On opening the lids, both eyeballs showed intense hyperemia. The cornea of each was clear, and the pupils were contracted to the size of a pinpoint. Vision roughly tested was normal, pain was intense, and of a burning character, with a feeling as if the eyelids were raw or as if foreign bodies were in the eyes. Under hot applications, 4 per cent. cocain instillations, and free use of boric acid, his eyes improved, and, when I left him at 1:15 a. m. he was fairly comfortable. He received a dose of potassium bromid and was asleep before 3 a. m. In the morning his eyes were much better, although there was still some hyperemia and photophobia, slight pain and the pupils were still small. He had no pain during the morning. At 12:45 p. m. the pupils were enlarged under the action of cocain and the hyperemia almost gone; only a few enlarged conjunctival vessels showing remained instead of the deep circumcorneal injection which had formerly been present. He went to work the next day before I saw him and I have not seen him since.

The above is a typical case in every respect, but sometimes we find other complications, as is shown in the following cases:

Rivers[2] reports a case in which the results were much more serious and lasted for several months. In this case the patient was seen about one hour after the accident and the following symptoms noted: The face and hands were badly burned and the eyelashes and eyebrows nearly burned off. On pulling the lids apart the ocular conjunctiva had the appearance of having been painted with a strong solution of nitrate of silver. The cornea of each eye was of the appearance of ground glass.

Here we evidently have a true burn of the cornea and conjunctiva, adding to the severity of the case, and the more serious results must be attributed to this cause. On the other side, Chaudron[3] reports a case and says: "Conjunctiva of lids red, cornea and ocular conjunctiva not affected." All medical men who have reported on the condition of the iris note the contraction of the pupil, but a workman in reporting his own case[4] speaks of the pupil as being "more or less dilated according to the severity of the attack."

Rockliff[5], Brose[6] and Rivers[2] report the effects as coming on almost immediately, but all others give an interval in which there is a nearly complete lack of all symptoms, the time of onset varying from six hours—Emrys Jones[4]—to twelve or fourteen—Ljubinski[1].

Leaving this part of the subject, we might look at the theories that have been advanced as to the cause and effect of these injuries. We may divide them into two important branches, one, in which the source of injury is discussed, and the other, as to what tissues are involved. In the first case we have to deal with the three sets of rays, given off by the electric flash—the light, heat and chemical.

Gould[7] says: "Ocular injury is due, not to the supposed preponderance in the electric-light rays of violet and ultra-violet—chemical or actinic—waves, but simply to the great number—intensity—of the usual length light-waves." He gives the following table also: "Rendering the yellow rays equal in the spectrum, Myer has analyzed the two forms of electric light, with solar light as term of comparison.

	Gas.	Incandescent.	Arc.
Red	4.70	1.48	2.09
Yellow	1.00	1.00	1.00
Green	0.43	0.62	0.99
Blue	0.23	0.21	0.87
Violet	0.15	0.17	1.07

Terrier[8] also considers the light-rays as propably the active ones in these cases. On the other hand, Charcot[9] thinks it due to the chemical rays. In his paper he compares this injury to sunburn and says it is not the heat-rays that cause the trouble, for sunburn may occur in some cases in the early spring and cool weather—*temps frais*. It is not the light-rays, as with a spark from 100 to 600 couples—Bunsen—or several Rhumkoff coils, with light only of a star, which he could look at without difficulty, the effects were produced. It is chemical, for full protection is found by passing the light through spectacles of oxid of uranium.

Snell[10] and Hill[11] both consider the chemical rays the source of injury, as does also Nodier[12], and S. M. Burnett of Washington, D. C., in discussing a preliminary paper on this subject, before the society there, brings forward the heat rays, as the active agents, as will be shown when the theory of the injury itself is discussed. As to just what that injury is there have been almost as many opinions expressed as there are tissues to be injured. Beginning with the front of the eye, Burnett thinks the injury is done to the corneal epithelium, by the heat-rays, and that they gradually die and become detached from the cornea, leaving the terminal filaments of the nerves bare, thus explaining the temporary freedom from pain before the detachment of the dead epithelium, the intensity and character of the symptoms, due to exposed nerve filaments, and the quick recovery, by the well-known quickness of replacement of the cornea epithelium. In other words, he considers it a burn of the cornea of the first degree.

Gould[7] says: "The fact that photophobia, lachrymation, etc., are not symptoms of retinal lesion or inflammation, seems to make Nodier's assumption purely gratuitous. These symptoms are the infallible results of irritation of external tissues, the conjunctiva, cornea, etc. This irritation certainly exists in electric-light injuries . . . It simply results in vasomotor paralysis, by pure reflex action and there follow, as inevitable and necessary consequences, the outflow of tears, the vascularization—*not* conjunctivitis—of the conjunctiva, etc."

Hill[11] summarizes as follows: "A temporary paralysis of some of the optic nerve terminals is induced by the exposure to the intense light and heat of the electric drill, as shown by the subjective color sensations experienced. The corneal terminals reflexly share in the paralysis; lachrymation and photophobia are absent because the nerve-terminals are paralyzed, and not merely irritated at the time. After the lapse of a few hours, a reaction, with temporary congestion, is set up, as manifested by the acute pain and lachrymation and, probably some mistiness of vision. . . . These cases are, in fact, analogues to snow-blindness and, as in them, the pernicious effects of the electric light are probably due to the ultra-violet rays of the spectrum."

One more theory has been advanced which is worthy of attention. It is that of Nodier[12]. He goes largely into the anatomy of the veins of the eye, showing the two courses which the blood nominally follows, and expresses the following opinion: "We have to do with a hyperemia by stasis, or, if you prefer, a passive hyperemia of the conjunctiva, of which it is necessary to seek the source in the retinal lesion." He considers that the intense action of the electric light on the retina causes a hypercontraction of the ciliary muscles and processes, and this in turn causes an almost complete closure of the venæ vorticosæ and the blood is forced to seek its return through the anterior veins of the eye.

Returning to our own case we find a peculiar train of symptoms coming on several hours after the primary injury was inflicted. The symptoms all point to an extreme irritation of the anterior portion of the eye, especially the ciliary region and iris. Such diverse theories have been advanced, that it may be well to look for other causes, that give similar results. As far as I can find, there are two other sources of injury which have almost identical symptoms. These are snow-blindness, and two cases of accidental local application of extremely strong solutions of sulphate of eserin. In the first of these, the eye has been exposed, usually for some time, to a dazzling light, and the symptoms are practically the same,—photophobia, hyperemia of the conjunctiva, pain, generally of a cutting character, and strong contraction of the pupil. (Reich[12].) Here are the same symptoms, and any of the theories already given might apply. The other cause, strong solutions of eserin sulphate, is one of which I have seen no mention in any publication, and was brought out by a discussion on my preliminary paper on this subject before the society here. Through the courtesy of two of the members, Drs. Wilmer and Dufour, I report them here.

Dr. Wilmer's case was ordered a solution of hydrobromate of homatropia, 2 grains to 1 dram of water, to be used one drop in each eye every fifteen minutes for two hours. By mistake the druggist put up the same strength solution of sulphate of eserin. The patient was brought to Dr. Wilmer's office, with marked symptoms of poisoning, and the following eye symptoms: Conjunctiva very red, deep ciliary congestion, pinhole pupil, photophobia and lachrymation.

Dr. Dufour's case presented the same eye symptoms, but not the constitutional, as the medicine ordered was only 1 grain to 1 dram. The druggist in this case also substituted eserin for homatropia.

These two cases seem to give a clue to the real injury. I think we may dismiss the theory of injury to the corneal epithelium in these cases, and surely there was no injury to the retina, leaving us the ciliary region as the part principally involved.

To my mind, the theory is this: There is an intense irritation of the retina from the light rays, causing an instantaneous hypercontraction of the pupil and ciliary muscle, followed by a temporary paralysis of the ciliary nerve. The intense hypermia which comes on later is due to the regaining of their functional activity. In fact, I agree with Hill[11] in his theory, except that he considers the chemical rays the active agents, while I consider the light-rays to be the ones that do the damage. I am led to this latter belief by the showing of the small proportion of these rays in the electric light, by Gould[7] and also by the paper of Gould and Fox[14]; where they show quite conclusively that the media of the eye have more or less power to strain or filter out these chemical rays, before they reach the retina. I give a table of the symptoms of the three principal causes of the injuries which we have been discussing.

Electric Flash.	Snow Blindness.	Sulph. of Eserin.
Exposure—From instantaneous to moderately long.	Generally rather long.	Sol: gr. i or gr. ii to ʒi, locally every 15 minutes for 2 hours.
Immediate Symptoms — Generally none, but may be severe.	Generally none.	After a few instalations.
Pupil—Greatly contracted.	Same.	Same.
Lachrymation — Great.	Not excessive.	Great.
Cornea.—Clear. (All but one case.)	Same.	Same.
Pain.—Intense, cutting.	Same.	Same.
After-Images — Chromothropsia.	Erythropsia.	Erythropsia.
Ocula Conjunctiva—Greatly congested.	Same.	Same.
Recovery — Generally complete and rapid.	May be slow, but majority recover.	Recovery complete in the two cases reported.

Turning now to the practical side, on the theory just given, the treatment should be directed to the relief of the intense hyperemia of the ciliary body and iris, and also its accompanying pain and discomfort. These indications are best met by iced cloths applied to the lids, and instillations of solution of atropia, 1 grain to 2 drams of water, for the former, and cocain 4 per cent. and saturated solutions of boric acid, for the latter condition. The injury is rarely or never, permanent, and in the great majority of cases, the effects last from twenty-four to forty-eight hours only.

Ljubinski[1] says that there may be a relapse on the second or even the third night, but no other author mentions such cases. The prognosis, therefore, is very favorable, notwithstanding the severity of the symptoms at the time of the attack. As to prevention, glasses to protect the eyes should be used. The best seem to be those composed of from four to six pieces of red and blue glass placed alternately. (Snell)[10].

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BIBLIOGRAPHY.

1. Ljubinski: Wjestnih Ophth. May June, 1889; Not seen. (Review Arch. Ophthal., xix, 349.)
2. Rivers: Arch. Ophthal., xxiii, 34, 1894.
3. Chaudron: Rev. Gen. d'Ophthal., No. 2, p. 63, 1888.
4. Emrys Jones: Ophthal. Review, ii, 106, 1883.
5. Rockliff: Ophthal. Review, i, 308, 1882.
6. Brose: Arch. Ophthal. xxiii, 124, 1894.
7. Gould: Med. News, lviii, 634, 1888.
8. Terrier: Arch. d'Ophthal., viii, 1, 1888.
9. Charcot: Compts. Rendu de la Soc. Biol., 2 S. v, 1888.
10. Snell: Brit. Med. Journal, 583, Sept. 10, 1894.
11. Hill: Lancet, 1897, ii, 194.
12. Nodier: Paris, Thesis, 1881.
13. Riech: von Graefe Arch. xxvi, 135, 1880.
14. Fox and Gould: Am. Jour. Ophthal., 1886.

The Government hospital ship *Missouri* sailed for the Philippines on September 29, with a hospital corps of 150 men.

Therapeutics.

Gastritis.

Van Valzah and Nisbet, in their new work on "Diseases of the Stomach," recommend the following treatment in chronic hypersthenic gastritis: After the initial period is established, the indications are, *a*, to protect the mucous membrane against all forms of irritation; *b*, to maintain the balance of nutrition by a suitable diet; *c*, to control or utilize the excessive secretion; *d*, to treat the gross symptoms; *e*, to prevent stagnation or retention. Tonics, nervines, purgatives, and all drugs which act as local irritants and excitants of secretion should be avoided; indeed not only avoided, but absolutely prohibited.

The diet should contain no condiments, spices, vinegar, highly-seasoned sauces, fermenting or decomposing foods, or alcoholic drinks.

The hyperchlorhydria will be greatly influenced by the protection of the mucous membrane against avoidable irritation. The condition of the nervous system may also be a causative factor in the production of the hyperchlorhydria and every means should then be employed to enforce mental and moral repose. The usual remedies for toning the nervous system should be prescribed, one of the most powerful being the Scottish douche. Gastrospinal and cervicogastric sedative galvanization may be given a trial. To control the excessively acid secretion no remedies are more efficient than the alkaline-sulphate waters of which Carlsbad water is the type. Artificial salts may be prescribed in the following proportions:

Sodium sulphate....................	50		50
Sodium bicarbonate..................	40	or	20
Sodium chlorid......................	10		5

The first proportion (50, 40, 10) is more strongly antacid, and the second (50, 20, 5) acts more decisively on the bowels. A level teaspoonful of the mixed salts, dissolved in a glass of hot water, should be taken, by sips, one hour before breakfast. The dose should be increased—proportionate increase of hot water—or decreased until only one soft movement of the bowels results. The cure should be continued for three to four weeks, the patient taking but little exercise. The Carlsbad cure should not be ordered for the old and the weak, or for patients with valvular heart disease.

A very valuable remedy, both to influence secretion and to allay the excessive irritability and the morbid sensibility of the mucous membrane, is the nitrate of silver (1:2000) douche, employed once a week. Or a tablespoonful of a solution of one grain to two ounces of distilled water may be given every morning on an empty stomach. Theoretically, belladonna, on account of its inhibitory action on secretion, and its diminution of reflexes, is indicated, and practically, it is of very great value when given in small doses (1/50 to 1/20 of a grain) before meals. Subnitrate of bismuth is very valuable when given in the large doses and manner recommended by Fleiner. Small doses of ergot control the excessive flow of blood to the mucous membrane during digestion.

Pain, vomiting, and constipation may require special attention. To relieve the pain, no remedy is so effective as the aqueous extract of opium, which may be combined with a good extract of cannabis indica, and extract of belladonna, 1/10 of a grain of each being employed. These anodynes should only be used when alkalies, diet, rest, the warm compress, belladonna, ergot, Carlsbad salts, nitrate of silver, and bismuth fail to give relief. It is useless to treat the vomiting with a symptomatic remedy, the act being conservative and protective. Better encourage it by giving lukewarm water or wash out the stomach.

In addition to the remedies directed against the conditions which underlie it, during the periodical attacks of gastric intolerance a Winternitz or Priessnitz compress should be placed on the stomach half an hour before the meal, and kept there during the period of gastric digestion, and in all cases the compress should be worn at night. The constipation is commonly relieved by the prescribed mineral water, but the bowels may exceptionally require evacuation by a warm water enema, to which a teaspoonful of neutral glycerin may be added, or by gluten or glycerin suppositories.

Ewald claims that hydrochloric acid is of the greatest importance in the treatment of chronic gastritis because it not alone replaces the deficiency in the secretion and forms acid albuminates so essential for peptonization, but also because it prevents organic fermentation, or lessens it if already present.

To stimulate glandular secretion Ewald recommends tne following prescriptions:

R. Tinct. nucis vomicæ.......................ʒi¼
Decoct. condurango.........................ʒv
M. Sig. Tablespoonful three or four times daily, half an hour before taking food.

R. Tinct. belladonnæ.........................ʒi¼
Tinct. nucis vomicæ.........................ʒiiss
Tinct. castor canadensis....................ʒiiss
M. Sig. Twenty drops six times daily. [10 drops is safer.]

ADENASTHENIA GASTRICA.

In adenasthenia gastrica, the following tablet is advised:

R. Quininæ.....................................gr. 1/5
Ipecacuanhæ...................................gr. 1/10
Hydrastinin muriat
Ext. nucis vomicæ, āā.......................gr. 1/20

GASTRIC PAIN.

This is not infrequently due to neuralgia, when antipyrin, kryofin or one of the coal-tar analgesics will usually afford relief. Aconite, gelsemium and arsenic are valuable remedies, as well as hyoscyamus, cannabis indica, hydrocyanic acid, belladonna, and chloroform water.

Ewald has found the following combinations useful:

℞. Morphinæ hydrochloratis..................gr. iii
Cocainæ hydrochloratis......................gr. v
Tinct. belladonnæ...........................ʒi¼
Aquæ amygdalæ amaræ.........................ʒv
M. Sig. Ten to fifteen drops every hour. Where the pains are very severe, three doses of ten drops each within an hour.

R. Codeinæ phosphatis.......................gr. 1/8-1/4
Bismuthi subnitratis........................gr. v
Sacchari lactis.............................gr. iii
M. Sig. Tal. dos. every two hours.

The following, recommended by Van Valzah and Nisbet, is an excellent gastric analgesic, to which codein may be added when the pain is spasmodic or severe:

℞. Ext. belladonnæ
Ext. cannabis indicæ, āā.....................gr. 1/10
Ext. coco....................................gr. iii

The soothing influence of hot applications should be remembered, in the treatment of all forms of gastric pain save that produced by a local irritant.

Vomiting.

If due to gastric irritation, the stomach should be washed out by lavage or large draughts of tepid water, when an opiate may be administered hypodermically or by rectum.

Oxalate of cerium in full doses, 5 or 6 gr., dry on the tongue is an efficient remedy.

The following recommended by Van Valzah and Nisbet, sometimes acts beneficially:

℞. Ext. coco alcoholic exsiccat...............gr. iii
Ext. kola alcoholic exsiccat.................gr. v
Ext. belladonna alcoholic exsiccat...........gr. 1/10
M. Sig. A tablet of this may be allowed to melt on the back part of the tongue, or the mixed powder may be placed there.

The following suppository, recommended by Van Valzah and Nisbet, has a very soothing and quieting influence:

R. Asafœtidæ..................................gr. v
Pulv. ext. valerian..........................gr. iii
Ol theobrom, q. s.

If there be much prostration, strychnin, hypodermically, is the best palliative, or, if there be much excitement, the phosphate of codein may be given hypodermically, or chloral hydrate by rectum or morphin may be at once used, without trial of less trustworthy remedies. Nitroglycerin may be used to equalize the circulation.

An excellent remedy is cold or heat applied to the spine and to the epigastrium.

The following prescription has been highly recommended by Butler as an excellent and trustworthy gastric sedative:

℞. Vini ipecac
Acidi carbolici, āā..........................m. i
Sodii bromidi
Sodii bicarbonatis
Bismuthi subnitratis, āā.....................gr. x
M. Ft. Chart No. 1.
Acidi tartarici..............................gr. vii
M. Ft. Chart No. 1.

Sig. Add the first powder to an ounce of water, and dissolve the tartaric acid in a tablespoonful of water. The liquids should then be mixed and drunk while effervescing.

Treatment of Dermatoses With Artificial Serum.

The beneficial results obtained by Tommasoli and others with subcutaneous injections of artificial serum in cases of extensive burns (see Journal xxxii, p. 30) suggested the idea that the same process might prove effectual in dermatoses of autointoxication origin. Tommasoli reports 10 cases of psoriasis thus treated: 3 were completely cured; 4 very much improved and 3 unaffected. In 8 subjects with severe eczema 6 were entirely cured; 1 improved and 1 unaffected. Four of five cases of pruritus—alcoholic, senile or icteric—were cured with an average of 25 injections, equivalent to 6800 grams of serum—10 to 20 grams sodium chlorid and 5 grams sodium bicarbonate to the liter—injecting first 25 grams and increasing to 100 to 200 and more.—*Semaine Med.*, September 6.

Value of Strychnin in Pregnant Women.

Tolmatscheff has recorded the results obtained by him in the administration of strychnin in the dose of 1/40 or 1/20 grain twice a day to pregnant women, the drug being given after meals for a period varying from six to ten weeks. He states, as a result of his studies in twelve cases, that strychnin is a valuable remedy to prevent the atonic constipation of pregnancy, and also that he regards it as being an excellent preventive against feeble uterine contractions. He failed to see any instances in which the treatment seemed to produce disadvantageous results. *Revue de Therap. Med. Chir.; Ther. Gaz.*

Gelatin Treatment of Varicose Ulcers.

Lafond-Grellety reports very successful results with old, extensive varicose ulcers with indurated edges and considerable edema, from the following treatment: The edema is first cured with subcutaneous capillary drainage until the serous discharge has been arrested for twenty-four hours. The granulations are then freshened with nitrate of silver for a couple of days, after which the surface is dressed with cotton dipped in a 10 per cent. solution of gelatin at 37 C., covered with oiled silk or rubber tissue and the limb placed in a horizontal position. The hot gelatin dressing is renewed three or four times a day.

Treatment of Acute Gonorrhea.

P. Albarran asserts that the failure of the usual methods of treating gonorrhea is owing to the folds and crevices of the membrane lining the urethra, in which germs may lurk sheltered from the irrigations. He suggests, and has been very successful with, a method consisting of distending the urethra with air: injecting 2 c.c. of pure ichthyol and 3 c.c. of air with a 10 c.c. syringe inserted through a perforated cone, which serves to prevent the escape of the air, held against the orifice for one to three minutes while the urethra is lightly massaged. —*Revista de Med. y de Cir.*, August 10.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Pacific Medical Journal, September.

1.— Observations on the History, Psychology and Therapeutics of Impotence. P. C. Remondino.
2.— Feeding of Infants. Hubert N. Rowell.
3.— Treatment of Pneumonia. A. Chase.
4.— Case of Gastric Reefing for Dilated Stomach. Geo. C. Macdonald.
5.— The Doctor and People. Fred Hutchins.
6.— Best Operation for Hemorrhoids. J. Coplin Stinson.

Chicago Medical Recorder, September.

7.— Case of Myxochondro-Endothelioma of the Parotid Region. Richard H. Whitehead.
8.—*Interesting Surgical Cases (Continued). Daniel N. Eisendrath.
9.— Sir Edward Jenner. A Tribute to his Character and Achievements. Albert H. Burr.

The St. Louis Clinique, September.

10.— Case of Chronic Hepatitis Complicated with Gall-Stones, Infarction of Gall-Bladder Sinus, etc. H. L. Gault.
11.— The Southern Illinois Medical Association. Wm. R. MacKenzie.
12.—*Essentials in Chemistry: What the Medical Student Must Know. C. W. Lillie.

Merck's Archives (N. Y.), September.

13.— Soluble Metallic Silver. Horatio C. Wood, Jr.
14.— Some Practical Notes on Ocular Therapeutics. Howard F. Hansell.
15.— Treatment of Acute Cystitis. Milton P. Creel.
16.—*Therapeutics of Hemoptysis. Thomas J. Mays.
17.— Therapeutic Value of Thiocol in Treatment of Pulmonary Tuberculosis. F. W. Frieser.

Chicago Clinic, August.

18.— Clinical Significance of Variations in the Amount of Urinary Solids. J. H. Salisbury.
19.— A Plea for Radical Treatment of Hay-Fever. Chas. E. Clark.
20.— Dislocation of Femur. W. T. Eckley.
21.—*Saturday Lessons in Neurology. Harold N. Moyer.
22.— Fracture of the Shaft of the Radius at the Junction of the Upper and Middle Thirds. T. A. Davis.

Medical Times (Philadelphia), September.

23.— Medical Libraries. A. D. Davidow.
24.— Bacteria in Disease. J. J. Caldwell.
25.— Euphthalmin and Mydriatics which are Favorable for Ophthalmoscopic Examinations. H. Darier.
26.— Severe Case of Puerperal Sepsis Treated by Antistreptococcus Serum and Unguentum Credé. James D. Voorhees.

International Medical Magazine (Philadelphia), September.

27.—*Practical Aspect of Dorsal Percussion, and in Particular of Percussion of Spine. William Ewart.
28.— Bacteriology; Its Practical Value to the General Practitioner. W. Wayne Babcock.
29.— Urinary Retention in the Male: Its Treatment. Orville Horwitz.
30.— Local Treatment of Corneal Ulcer. Walter L. Pyle.
31.— Use and Abuse of the Douche. D. Braden Kyle.
32.— Some Points in Relation to Syphilis. J. D. Thomas.
33.— Prognosis and Treatment of Chronic Sthenic Gastritis (Acid Gastritis Catarrh). Boardman Reed.

Bulletin of the Johns Hopkins Hospital, August-September.

34.— Bibliographic Sketch of John Archer. By One of His Descendants.
35.— Female Poisoners—Ancient and Modern. Charles C. Bombaugh.
36.— History of Medical Department of Transylvania University and Its Faculty. William Jephtha Calvert.
37.— Sketch of John Crawford, M.D. E. F. Cordell.
38.—*Case of Acute Suppurative Cholecystitis with Isolation of the Bacillus Typhosus Eighteen Years After an Attack of Typhoid Fever. Guy L. Hunner.
39.—*Observation on the Origin of Gall-Stone Infections and on Experimental Formation of Gall-Stones. Harvey Cushing.

Canada Lancet (Toronto), September.

40.— Diseases of the Respiratory System. Hector Mackenzie.
41.— Food in Motherhood. Ephraim Cutter.

Canadian Practitioner (Toronto), September.

42.— Home Treatment and Prevention of Pulmonary Tuberculosis. T. F. McMahon.
43.—*Role of Wound Infection as a Factor in Causation of Insanity. A. T. Hobbs.
44.— Electrolysis and Cataphoresis in Treatment of Inoperable and Recurrent Malignant Disease. R. N. Fraser.
45.— Medicine in Gottingen. Thomas McCrea

New England Medical Monthly (Danbury, Conn.), September.

46.— Primary Carcinoma of the Lung. Kurt Wittauer.
47.— Lesions of Tendons and Muscles. Genevieve Clarke.
48.— A Plea for Both the Tuberculous and the General Public. Arch Dixon, Jr.
49.— Use of Ethyl Chlorid as Anesthetic. J. Weisner.
50.— Interesting Case of Ischiorectal Abscess. C. J. Whiten.
51.— Choice of a Reconstructive Agent After Severe Hemorrhage. E. E. Hutchins.
52.— Clinical Experience with Thialion. Lucien Lofton.
53.— Surgical Cure of Hydrocele. D. C. Hawley.
54.— Vasogen in Practice. J. A. Humphrey.
55.— Treatment of Chronic and Acute Diseases of Respiratory Passages with Guaiacol Carbonate and Creosotal. Fritz Hölscher.
56.— Treatment of Puerperal Eclampsia. J. S. Bird.

Therapeutic Gazette (Detroit, Mich.), September 15.

57.—*Treatment of Apoplexy. L. Harrison Mettler.
58.—*Displacement and Dilatation of the Abdominal Organs: Their Relation to Faulty Modes of Dress, and Their Treatment. Boardman Reed.
59.— Note on the Employment of Solutions of Toluidin-Blue in External Inflammatory Diseases of the Eye. Clarence A. Veasey.
60.— Treatment of Summer Diarrhea in Infants. David Bovaird, Jr.
61.—*Preliminary Note on the Use of Asparagus as a Diuretic. H. A. Hare.
62.— Therapeutics of Summer Diarrhea. C. G. Jennings.

Medical Sentinel (Portland, Ore.), September.

63.— Foreign Bodies in the Bladder. R. Harvey Reed.
64.— Quackery—Its Cause, Diagnosis, Prognosis and Treatment. J. P. Tamiesie.
65.— Morphia Poisoning Treated by Permanganate of Potassium. C. E. Wade.
66.— Tubercular Disease in Animals. E. N. Hutchinson.

The Ophthalmic Record, August.

67.—*Uncommon Expressions of Ethmoid Sinus Disease with its Ocular and Orbital Symptoms. Robert Sattler.
68.—*Experience and Operations for Secondary Capsular Membranes. Morrison Ray.
69.—*Significance of Certain Rare Forms of Ametropia. S. D. Risley.
70.— New Instruments for Measuring the Monocular Field of Fixation. F. B. Eaton.
71.—*Quinin Blindness in a Young Girl. H. Moulton.
72.—*A Communication on Acoin. Robert L. Randolph.

American Medical Compend (Toledo, Ohio), September.

73.— Smallpox. Wm. A. Dickey.
74.— Report of Case of Involvement of Appendix in a Tubal Pregnancy. Wm. J. Gillette.

Laryngoscope (St. Louis, Mo.), August.

75.—*Three Cases of Spontaneous Hemorrhage from the Septum. Marcel Natier.
76.—*Prevention of Nasal Catarrh. Frederick C. Rogers.
77.— Asthma as a Reflex Manifestation from Abscess of the Antrum. Charles W. Richardson.
78.— Report of Case of Empyema of Frontal Sinus, with Orbita Abscess - Operation and Cure. Wm. A. Martin.
79.—*Benign-Laryngeal Tumors. John M. Ingersoll.
80.—*Some Observations on Anatomy and Physiology of the Ear. W. F. Cole.
81.— Sinus-Thrombosis; Cure without Opening the Sinus. Robert Levy.
82.— Use of Gelato-Glycerin Bougies in the Treatment of Earache. George L. Richards.
83.— Adenoid Vegetations and Diphtheria. A. Plottier.

Western Medical Review (Lincoln, Neb.), September 15.

84.—*Reflex Neuroses from Nasal Obstruction. H. Leslie Burrell.
85.—*A Modification of the Murphy Button. Arthur E. Hertzler.
86.—*Syphilis in the Throat. S. E. Cook.
87.— Pharmacology. A. L. Muirhead.
88.— Case of Imperforate Anus with Fistula. S. C. Beede.
89.— Smallpox in Nebraska City. Claude Watson.
90.—*Clinical Value of Blood Examinations. Fletcher M. Gardner.
91.— Outline for Examination of Stomach Contents. Chas. A. Helvie.
92.— Treatment of Burns. W. D. Otis.
93.— Foreign Body in the Air-Passage, with Report of Case. R. E. Eskildson.
94.— Abortion. A. D. Wilkinson.

Colorado Medical Journal (Denver), September.

95.—*A Study of Trachoma. John Chase.
96.— Bone Necrosis Following Typhoid Fever. Frank Finney.
97.—*Use of Salicin in Treatment of Acute Rheumatism. J. W. Cline.
98.— Abortion: Its Sequelæ and Treatment. P. J. McHugh.
99.—*Treatment of Nose-Bleed. Thomas J. Gallaher.

Occidental Medical Times (San Francisco), September 15.

100.— An Address. Rabbi Jacob Voorsanger.
101.— Valedictory Address at Graduating Exercises of Cooper Medical College. C. N. Ellenwood.
102.— Resection of Rectum and Bladder—Colostotomy—Cure of Artificial Anus—Recovery—Demonstration of Patient. Charles G. Levison.
103.— Relation of Recuperative Powers of Nature to Medical Practice. G. L. Simmons.
104.— A Study of Cesarean Section—Four Cases. W. S. Thorne.

Fort Wayne Medical Journal-Magazine, August.

105.—*Some Tendencies in Abdominal and Pelvic Surgery. Chas. A. L. Reed.
106.— Anemias of Intestinal Origin; Report of Fatal Case with Autopsy. G. W. McCaskey.

Texas Medical Journal (Austin), September.

107.—*Carbolic Acid Poison. Frank Paschal.
108.— City Sanitation. John Rodham.
109.— Home Sanitation. Mrs. A. Fletcher.
110.—*Dental Surgeons in the Armies and Navies. H. S. Stout.
111.— The Squamous Palmar Syphilide. A. H. Ohmann-Dumesnil.

American Gynecological and Obstetrical Journal, September.

112.—*Preliminary Observations on Relation of Some Intrapelvic Conditions to Blood States in Women. Charles A. L. Reed.
113.—*Remarks on the Diagnosis of Puerperal Septicemia. W. Reynolds Wilson.
114.—*Cornual Pregnancy. Charles E. Manierre.
115.— Memoir of Dr. Robert P. Harris. Charles P. Noble.
116.— Collective Reports on Glycerinated Vaccin Lymph. Albert C. Barnes.

117. Clinical Notes on Protargol in Purulent Diseases of the Eye. Edward S. Peck.
118. Case of Septicemia Post-Abortum. R. H. Lawrence.
119.— Some Clinical Uses of Boroform. John O. Polak.
120.— Therapeutics of Hot Dry Air. Geo. L. Kessler.

Southern California Practitioner (Los Angeles), September.

121.— Some Recent Literature of Cancer. J. H. McBride.
122.— Cases of Chronic Ascending Paralysis. Chas. L. Stoddard.
123.—*Two Diphtheria Cases Treated by Antitoxin Hypodermically, and Four Cases Immunized per Orem. C. G. Stivers.
124.— The Sigmoid Flexure, with Report of Two Cases of Sigmoiditis. Wellington Burke.
125.— Two Cases of Typhoid Infection without Intestinal Lesions. A. J. Lartigau.

Journal of Mississippi State Medical Association (Biloxi), September.

126.— Acute Lymphadenitis. Report of a Case. L. F. Fox.
127.— Pneumonia; or, Commonly known as Lung Fever. W. W. Robertson.
128.— Some Medical Points. M. J. Lowry.
129.— The Mind in the Presence of Disease. L. M. Guess.
130.— Smallpox in Eastern Virginia. Frank H. Hancock.

Atlanta Journal-Record of Medicine, September.

131.— Pathology of Fever. J. Clarence Johnson.
132.—*Mitral Stenosis. M. F. Carson.
133.— Interesting Case of Appendicitis. W. Hal Moncrief.
134.— Medical Superstitions. D. W. B. Conway.

Pediatrics (N. Y.), September 15.

135.—*Malaria in Children. Dr. Moncorvo.
136.—*Remarks on Scarlet Fever. Walter Suiter.
137.— Specific Necrosis of Shaft of Tibia—Sequestrotomy—Relapse—Cure without Operation. Harry Ling Taylor.
138.—Lateral Pharyngeal Abscess Following Tonsillotomy. Francis Huber.

American Practitioner and News (Louisville, Ky.), August 1.

139.—*Closure of the Abdominal Incision After Laparotomy. A. T. McCormack.
140.—*Use of Chloroform in Labor. Walker Bourne Gossett.
141.—*Suprarenal Extract in Treatment of Addison's Disease. R. Alexander Bate.

New York Medical Journal, September 30.

142.—*Displacements of Heart in Lateral Curvature. A Study in Therapeutics. Thomas E. Satterthwaite.
143.— Removal of Foreign Body from Bronchial Tube through Tracheal Opening. Report of a Case. A. Coolidge, Jr.
144.—*New Series of Therapeutic Agents. Karl Schwickerath.
145.— The *Amœba ciliaria* in Disease. Henry Gereon Graham.
146.—*Typho-Malarial Fever. Charles R. Grandy.
147.—*A Third Report Relating to the Heated-blood Treatment of Croupous Pneumonia. Carl E. Elfstrom.

Medical Record (N. Y.), September 30.

148.—*A Further View of the Management of the Deformity of Hip Disease. A. B. Judson.
149.—*Neglect of Sexual Symptoms in Treatment of Male Genito-Urinary Organs. Follen Cabot.
150.— Induction of Premature Labor in Cases of Albuminuria. Elizabeth Jarrett.
151.—*Toxic Origin of Certain Neuroses and Psychoses. G. W. McCaskey.
152.— Dangers of Headache Powders; Report of a Case, with Tests for the Suspected Ingredients. Jacob Sobel.
153.— Case of Hereditary Arthritis Deformans Terminating in Fatal Pernicious Anemia. John S. Billings, Jr.
154.— Report of Two Cases of Acute Suppurative Osteomyelitis. G. H. Grant.

Medical Review (St. Louis), September 30.

155.— An Epidemic of Pemphigus. Ella Marx.
156.— Case of Traumatic Rupture of the Long Head of the Triceps Extensor Cubiti. Geo. Homan.

Maryland Medical Journal (Baltimore), September 30.

157.— Water-Supply of Baltimore. A Note of Warning About the Contamination of our Water-Supply, with Some Suggestions for its Improvement. Charles O'Donovan.
158.—*Use and Abuse of Nitrate of Silver in Treatment of Ophthalmia of the Newborn. Harry Friedenwald.
159.— Puerperal Sepsis: Report of Case. Flora Pollack.

Boston Medical and Surgical Journal, September 28.

160.—*Completed History of Case of Total Extirpation of Stomach, with Remarks on Surgical Treatment of Gastric Cancer. Maurice H. Richardson.
161.— The Boston Dispensary Clinic in Mental Diseases. Arthur C. Jelly.
162.—*Administration of Ether at the Boston City Hospital. J. B. Blake.
163.— Cyclic or Periodic Vomiting. Albert N. Blodgett.
164.— Dermoid Cyst of Ovary with Twisted Pedicle in a Child of 10 Years; Operation with Recovery. J. V. Meigs.

Philadelphia Medical Journal, September 30.

165.—*Excision of High Rectal Carcinoma without Sacral Resection. N. Senn.
166.—*Tuberculous Peritonitis; Gastrostomy; Acute Appendicitis. Frederic S. Dennis.
167.— How Nature Utilizes the Iron Contained in the Blaud Pill. Wm. Henry Porter.
168.—*Use of Thermol in Typhoid Fever. Geo. B. Miller.
169.— Diagnosis of Congenital Disease of the Heart; with Report of Case. J. P. Crozer-Griffith.

Medical News (N. Y.), September 30.

170.—*Diphtheria: Etiology, Diagnosis, Prophylaxis. John Dudley Dunham.
171.—*Suggestions Concerning Early Diagnosis in Pulmonary Tuberculosis. S. G. Bonney.
172.— Some Surgical Aspects of Syphilis. Frank Hartley.
173.— Wound of the Urinary Tract During an Operation for Acute Appendicitis; Spontaneous Closure of Urinary Fistula; Recovery. Chas. A. Powers.
174.— Suggestion as a Means of Producing Sleep in a Patient Said to be Insane. J. M. F. Gibbons.

Cincinnati Lancet-Clinic, September 30.

175.—*Use of Anesthetics in Obstetrics. Wm. D. Porter.
176.—*Comparative Safety of Anesthetics. L. S. Colter.
177.—*Effects of Anesthetics on the Kidneys. Geo. B. Twitchell.

AMERICAN.

8. **Conservative Treatment of Joint Tuberculosis.**—Among his interesting surgical cases, Eisendrath reports his experience with the treatment of joint tuberculosis and cold abscesses by the injection of 10 per cent. solution of iodoform in glycerin, a method first suggested by Mikulicz of Breslau. He briefly reports two cases which are still under treatment, and not having extensive statistics of his own, he quotes from those of Henle, published last year in Brun's *Beitrage*. The method was combined with the venous congestion method of Bier, which consists in applying constriction above a joint to retard the flow of venous blood, but not interfere with the arterial circulation. Henle's tables include 133 cases treated by both methods, in which results were obtained in 95 observed three years after discharge. In 75.8 per cent. the results were good. Of a total of 235 cases treated altogether, 167 were observed three years after discharge, with good results in 70 per cent. The method consists in the injection, at regular intervals, of a 10 per cent. solution of iodoform in glycerin into the tuberculous joint or abscess. The quantity injected varies from 4 c.c. in children to 30 c.c. in adults, and larger doses still in cold abscesses. If in the upper extremities, the patients are allowed to go about at once; if in the lower, they are kept quiet for three or four days. No especially bad effects are observed. The injection is so applied as to affect every part of the joint, and the intervals between injections varies from eight days to four weeks. General treatment must not be neglected, in the way of good nutritious food, milk, out-door life, iron and creosote. Mikulicz only makes it a rule to resect in cases of the knee-joint in adults. In other cases it is necessary only in a very small proportion.

12. **Examination of Urine.**—Lillie considers abnormal urine, tests for albumin and sugar, and thermometers, this paper completing the series on "Essentials in Chemistry."

16. **Therapeutics of Hemoptysis.**—After defining the condition, Mays recognizes the action of the vasomotor nerves in the production of the symptoms, and holds that it may be due to any accident impairing the integrity of the nervous system in general, and particularly the pulmonary nerve supply. Thus he recognizes a pure neurotic, an alcoholic, a syphilitic, and a rheumatic hemoptysis. The evidences of alcoholic action in this direction, and also that of syphilis, he maintains, are clear. Rheumatic hemoptysis is, in his opinion, dependent on the toxic action of uric acid, and among its characteristic symptoms are stiffness of joints, rheumatic family history, pain on pressure between the metacarpal bones of the finger and thumb, aching or numbness in one or both forearms, pain in the chest, dyspnea, and sometimes pain in the right groin. He thinks the most reliable permanent styptic is strychnia, in progressive doses, beginning in the adult at 1/32 gr. four times a day, and gradually increasing to the limit of toleration. Rest is also a vital factor. In the alcoholic form larger doses of strychnia and capsicum are borne than in the other types. In the syphilitic form the specific treatment is called for. The treatment of rheumatic hemoptysis yields, he believes, to the salicylates, and he reports three cases in which these agents produced quick relief, in two of them apparently a good recovery. In treatment of hemoptysis from a lung cavity, the treatment must be somewhat different, absolute rest, cold application and morphin.

21. **Athetosis and Muscular Atrophy.**—Moyer considers athetosis and progressive muscular atrophy, in this installment of his "Saturday Lessons in Neurology."

27. **Dorsal Percussion.**—Ewart's article is rather long, fully illustrated, and so full of details that a satisfactory abstract within reasonable limits is impracticable. The reader is

referred to the paper itself, and it is well worthy of attention.

38. **Cholecystitis.**—Hunner reports a case of suppurative cholecystitis in which the bacillus typhosus was isolated and demonstrated by culture, though the patient's illness dated back eighteen years. The Widal reaction with the patient's blood and the organism was positive with 1:10 and 1:40 solution, and unsatisfactory with the 1:100.

39. **Experimental Cholelithiasis.**—In the discussion of the origin of biliary calculi, Cushing reports a case of inoculation of a culture of Eberth's bacillus in a rabbit's ear, with the result of producing gall-stones.

43. See abstract in JOURNAL, September 23, ¶ 7, p. 784.

57. **Treatment of Apoplexy.**—Mettler advises, in apoplectic attacks where hemorrhage is known to be the cause, raising the patient to a half sitting position, use of applications of cold to the head and heat to the lower extremities, giving all the fresh air possible, removing constricting clothing from the neck, also the old practice of placing two or three drops of croton-oil on the back of the patient's tongue. As regards bleeding, while sometimes beneficial, he thinks the general rule not to bleed would be better than the practice of doing it. Diuretics are judicious and catheterization is likely to be required sooner or later. Other than this, little is needed for the attack itself. Good nursing is important, also absolute quiet with the head elevated, light diet, gentle sponging of the surface of the body, fresh air, and cheerful invigorating surroundings. He begins massage early, not later than the first or second week, and with it uses a mild induced current every day for a few months. Later the patient is encouraged to attempt voluntary movement. In case of embolism instead of hemorrhage the measures for the attack are somewhat different. We must endeavor to bring the embolus to rest as soon as possible, and depletory measures are not indicated. He thinks it well to at times increase the blood-pressure within the cranium, by applying the Esmarch bandage to the limbs.

58. **Glenard's Disease.**—The subject of Reed's paper includes loose and movable kidney, enteroptosis of the stomach, intestines, etc., also of the uterus. He finds displacement of the abdominal organs much more frequent in women than in men, and attributes it largely to modern methods of dress. He reports two cases and concludes his paper with the following statements: "1. The fact that over one-half the patients examined at my offices during a period of about three years suffered with displacement or dilatation of either one or several of the abdominal organs, shows the enormous frequency of these serious diseased conditions—a state of affairs little understood or appreciated by the profession at large.

"2. The fact that, in so far as the patients or their friends were aware, not more than 1 per cent. of the large number of 362 displacements and dilatations of abdominal organs had been previously diagnosticated, indicates an extraordinary indifference to this important class of cases on the part of physicians generally.

"3. There is a deplorable lack of knowledge of what can be, and is being, done in abdominal displacements and dilatations by simple, safe, and efficient, even though often tedious, non-surgical methods."

61. **Asparagus As a Diuretic.**—Hare reports the results of the use of a fluid extract of asparagus tops in a case of cirrhosis of the liver, with anasarca in which the dropsical symptoms disappeared under the use of the drug. In another case where the dropsy was due to mitral disease, the urine rose from 27 to 40 ounces, and remained near that figure while the drug was continued.

67. **Ethmoid Sinus Disease.**—Sattler points out the obscurity of symptoms in some cases of ethmoid sinus disease, producing persistent fistula in and about the region of the tear sac, burrowing of the contents and discharge into the maxillary sinus, etc. Among the symptoms we have occasionally neuralgia of the nasociliary and supraorbital region, edematous drooping of the upper lid and a chemosis of the conjunctiva, and lateral dislocation of the orbit. He briefly reports cases relieved by operation.

68. **Operation for Secondary Capsular Membranes.**—The operation for thickened capsular membranes after a cataract extraction and their dangers are discussed by Ray, who gives an account of several of the more interesting cases in his practice.

69. **Ametropia.**—Risley reports several cases serving to illustrate the difficulties encountered in certain groups of ametropias, and incidentally the principles that should govern the surgeon in their treatment. The paper is rather technical and difficult to abstract.

71. **Quinin Blindness.**—The case reported by Moulton is that of a child 3 years old, who had been given 10 grains daily of bisulphate of quinin for malaria, for two days, followed the three succeeding days by 20 grains a day, and some days following by 10 again. The blindness was discovered before the quinin was discontinued. Altogether 90 grains had been administered at that time, and 20 grains in addition were received after the discovery. A guarded but not hopeless prognosis was given, and treatment with strychnia and Fowler's solution advised. Twelve weeks later the child began to see a little, and six weeks subsequent to that, vision was good enough for him to pick up small objects on the floor. Moulton does not think the accident of quinin blindness so rare as has been supposed, at least, not as far as regards partial and transient impairment of vision.

72. **Acoin.**—In this article Randolph describes a new local anesthetic related to caffein and theobromin, discovered recently by Trolldenier. It is a white powder, quite soluble in water in the proportions used (4½ gr. to ℥i), and his conclusions from his experience with it, subject to future modifications, are as follows: 1. Acoin in solutions of 1/100 to 1/300 produces satisfactory anesthesia in an unirritated eye in about the same length of time as cocain. 2. In more than one case where the eye was congested, repeated instillations of acoin were inadequate to produce satisfactory anesthesia. 3. Inspection of the cornea with a high power lens failed to show any defects in the epithelium after its use. 4. Acoin has no effect on accommodation. 5. It has no effect on the size of the pupil. 6. It does not increase intraocular tension. 7. Several experiments showed that the staphylococcus pyogenes albus did not grow in agar which contained acoin in the proportion used in the clinic, and furthermore, that exposure of this organism to the action of acoin for twenty-four hours was followed by the death of the organism. This would look as though acoin were not only an inhibitor of the growth of the staphylococcus albus, but that it also killed this organism after a certain length of time.

75. **Hemorrhage from Septum.**—Three cases are here reported by Natier, one due to rupture of an artery and continuing seventeen days, being finally relieved by the galvanocautery. The second was of fifteen years' duration, due to varicose veins, similarly treated and relieved, and the third of fourteen years' duration, with similar cause, also cauterized and treated by inhalations, and hemorrhage completely checked. The treatment of these hemorrhages, aside from measures immediately required to check the hemorrhage, such as bathing with hot water, tamponing, etc., must be by removal of the cause, and this can be done by cauterizing with caustics or the galvanocautery. He always employs the latter.

76. **Prevention of Nasal Catarrh.**—The article by Rogers is a plea for hygiene of the nasal tract in children, avoidance of unnatural heating in houses and accustoming children to out-door life. In purulent rhinitis continued home treatment with antiseptic solutions several times a day is necessary, with frequent office treatment. Every case of mouth-breathing should be examined to determine the presence or absence of nasal stenosis or adenoid vegetations in the pharynx.

79. **Benign Laryngeal Tumors.**—Ingersoll reports six cases of papillomata and fibromata of the larynx. Treatment consists in thorough removal of the growths.

80. **Anatomy and Physiology of the Ear.**—Cole maintains that sound vibrations are not transmitted through the ossicles, but through the air of the tympanic cavity and fenestra rotunda. His theory is not a new one, for it was held by certain old physiologists, but he has come to his conclusions from his own experiences. He thinks the ossicles are no more than a system of levers to regulate the tension of the membrane, as the bridge and sounding-posts in a violin regulate the tension of the strings.

84. **Reflex Neurosis.**—Burrell reports several cases of reflex trouble, asthma, profuse salivaation, headache and nausea, laryngitis, etc., relieved by treating nasal troubles. He thinks

hat notwithstanding the large number of cases reported since he publication of Hack's monograph on this subject, many ases are still overlooked and improperly treated with drugs.

85. **Modification of Murphy Button.**—The modification of he Murphy button, here described by Hertzler, consists in making the bulk of the button, aside from the central tube and lasp, of decalcified bone, which is absorbed by the intestines nd the small ferrule of the clasp is easily discharged. The omplete button weighs only about one-fourth as much as the egular Murphy button.

86. **Syphilis in the Throat.**—The manifestations of faucial yphilis are here determined by Cook. Aside from the primary esions they are: Erythema occurring from six weeks to three onths after infection, sharply demarcated, usually confined to he soft palate and pillars and occasionally on the tonsils, reddish, almost purplish in hue, sudden in its onset. The mucous atch occurs early and late, generally on the soft palate and illars and tonsils. The superficial ulceration is a late manifestation occurring several years after the primary sore and, robably, like the deep ulcer, due to the breaking down of a ummy tumor, which ordinarily is not so often observed. He eports a case and discusses the diagnosis. The treatment was ith the ordinary specifics. He thinks rather large doses of odid of potash are needed. In the early stages he would rely n mercurial inunctions. Locally the treatment has to be odified by the situation of the lesions. He has relied largely n iodoform and ether applied with a swab once a day, and requent topical applications of balsam of Peru. When swallowing is difficult and painful, an application of a 4 per cent. olution of cocain before eating is of service.

90. **Blood Examination.**—In the conclusion of Gardner's aper he enumerates some of the conditions in which blood examination is of value. It is only by this means we can make diagnosis of relapsing fever, filariasis, or the obscure tropical alarias. Malignant disease, if advanced, may be diagnosed rom non-malignant conditions by the presence of nucleated ed blood-corpuscles and a large leucocytosis. The only difference between sarcoma and carcinoma is that in the former the lood conditions are worse. Mania may be differentiated from eningitis by the presence of eosinophile cells in large numbers. Influenza in the puerperal condition gives a clinical icture much like that in septicemia, but is distinguishable by he presence of leucocytosis. Measles shows hypoleucytosis ith no eosinophiles, while scarlet fever shows the reverse of his condition. While typhoid fever shows leucocytosis, the udden appearance of polynuclear forms indicates some complication such as perforation. The same is true of pneumonia, ephritis, parotitis, and other acute diseases, and marks the evelopment of pus with the psychologic moment for operation n appendicitis. The absence of the normal leucocytosis during igestion is characteristic of gastric cancer, especially if HCl is bsent. If nucleated red cells are also found the proof is bsolute.

He says pyosalpinx may be differentiated from extrauterine regnancy by the presence of polynuclear leucocytosis in the ormer. Leucocytosis occurring during menstrual suppression nd without other assignable cause would be evidence of pregnancy and might sometimes be of value in doubtful cases. In he uric acid diathesis we have around the nucleus of the leucocyte certain little granules, which by the Neisser stain—lightly stronger methyl green than the Ehrlich-Biondi—are olored blue-black. These represent a stage intermediate between nuclein and uric acid and are, if present in any great umber, characteristic of this trouble. That property of the erum in typhoid fever which causes the agglutination of the Koch-Eberth bacillus seems to open up a wide vista for the uture, also.

95. **Trachoma.**—Chase's article discusses the general subject f trachoma. He finds that the assertion that it is unknown in igh altitudes is contradicted by his own experience, as 3 per ent. of his practice consists of cases of this kind, many of hem coming from mountain towns at a much greater altitude han Denver. Noticing the symptoms and treatment, he remarks that our ignorance of the true etiology of the disease enders efforts of prophylaxis almost void. As regards its herapeutics, he gives the following "rule of thumb," which he dopted a number of years ago for the guidance of students, and the idea of which he thinks he first obtained from Dr. Eugene Smith of Detroit. 1. Nitrate of silver is required in cases with free discharge. 2. Yellow oxid of mercury ointment is most useful in cases of great hypertrophy of the conjunctiva with liability to hemorrhage. 3. Sulphate of copper best meets the condition of chronic trachoma with little or no hypertrophy or discharge.

97.—See abstract in JOURNAL, July 29, p. 288.

99. **Treatment of Nose-Bleed.**—Gallaher describes the following method of arresting nasal hemorrhage: A piece of cotton as large as the patient's little finger is taken and a piece of string six inches long is tied to its center. The cotton is then introduced through the anterior nares until it is free in the nasopharynx, gentle traction is then made on the string until the cotton is engaged in the posterior nares, which can be told by resistance or by direct vision. I then blow in an antiseptic powder, and pack, against the plug, sterilized gauze in a long and narrow strip. More powder is blown into the meshes of the gauze as we pack to the front. The string should be wrapped around the index finger of the operator, and he should make sufficient traction to hold the posterior plug in place, lest the plug be dislodged and forced into the nasopharynx, defeating our purposes. When we have packed to the anterior nares a pledget of cotton will be all that is needed. In cases in which the hemorrhage has not been alarming, it is well to remove the plug in twenty-four hours. In graver cases it may be left for forty-eight hours, without much danger of producing acute inflammation of the middle ear. The packing should be removed with the utmost care, and in nearly every case its removal is not followed by additional hemorrhage. I first thoroughly saturate the gauze with an antiseptic solution, such as boracic acid, following this up with an injection of 2 per cent. solution of cocain, using it from time to time during the removal of the gauze. I also inject an oily solution such as liquid vaselin. When the posterior plug is reached an additional injection of the oil should be made; then the plug can be gently pulled through the nose by the string which has been kept in front and in the inferior meatus, the oily injection having lubricated the parts. At least ten or fifteen minutes should be taken to remove the plug. In case the plug is not easily dislodged, which is very seldom, it may be pushed back into the nasopharynx, first having additional string tied to the string already in place. The plug may be then removed by the forceps or drawn down and coughed out by the patient himself. This method can not be used in cases of great obstruction in the nostrils and in that case he introduces a soft rubber catheter with a string at its end, catching the catheter in the nasopharynx and drawing it out through the mouth. Then a pledget of cotton is tied to the string and pulled through the posterior nares, the nostril being packed with gauze as well as cotton. In cases of deflected septums occluding the anterior nares, a piece of cotton may be tied to a string, pushed back of the palate and placed in the posterior nares with the finger. He has never seen this complication, but it may occur.

105. **Abdominal and Pelvic Surgery.**—After noticing the early beginnings of abdominal surgery, Reed remarks on the fashions that have existed from time to time in its practice, the use of pessaries, which he now considers pernicious in 99 cases out of 100 and a subject for prayerful consideration in the one remaining; the Sims' operation of incision of the cervix; the universal application of trachelorrhaphy; the removal of cancer of the uterus without total extirpation; the removal of normal ovaries; and the surgery of diseased appendages. He says that in this important department of work the spirit of conservatism is now regnant. It may sometimes be questioned whether it does not go too far, but back of it is the earnest desire and purpose to conserve the best interests of humanity.

107. **Carbolic Acid Poisoning.**—Paschal reports a case where a woman weighing about 120 pounds had taken about 1 oz. of carbolic acid and was treated with success. He remarks that in these cases it is the paralysis of the nerve-centers that is to be feared, and the caustic effect on the intestinal tract is of secondary importance. The treatment to be effective must be prompt, and he would suggest that to use nothing further than antidotes and emetics is only wasting time. Strychnia should be used heroically, as the fight must be made

to get the ascendancy over the depressing effect of the acid on the cerebrospinal centers.

110. **Military Dentistry.**—Stout gives an interesting historical statement of the practice of dentistry in the Confederate army during the Civil War, and claims that while medical director of the Confederate hospitals in the Department of Tennessee, he was the first high military authority to recognize the importance of the services of dental surgeons and the first to use them in army practice.

112. **Blood States and Pelvic Conditions.**—The deviations from the normal standard of the blood in various pelvic conditions in women are discussed at some length by Reed. The first condition is that of infantile genitalia, in which he has observed the blood in two cases. In one of these the organs were so rudimentary that they never reached functional activity, and the blood showed no special abnormality. In the other, while there was an embarrassed function, there was marked anemia, red corpuscles 3,200,000, white 10,000, hemoglobin 60. He suggests that chlorosis is explainable by the fact that sexual maturity has occurred with insufficiently developed ovaries, and that ovarian states, through the sympathetic, exercise a controlling influence over the hemogenic organs. This view is not entirely new, having been suggested by Trousseau and others. In uterine displacement he has been profoundly impressed with the influence of this derangement on the functions of hematogenesis or hematolysis. The most pronounced changes were in cases of retrodisplacement with fixation, the fundus impinging on the sacral plexus. In such cases he has found oliginemia and hypohemaglobinemia. Nearly all are neurasthenic, which he credits to a toxemia. More or less blood disturbance takes place with descensus uteri, and he thinks that this is best explained by considering such conditions of long standing as connected with a more or less general splanchnoptosis. In chronic endometritis there is a slight increase in the number of leucocytes, but in those cases of long standing with menorrhagia and metrorrhagia there is often a veritable oligemia. In pyosalpinx a leucocytosis is present as in suppuration elsewhere. In some cases the diagnosis was materially aided by these facts. In the majority of small ovarian cystomata there is no appreciable blood disturbance. In six out of eight cases of cancer of the uterus, where the disease was limited to the cervix, the leucocytosis was not pronounced, but in the other two, more advanced, the count showed 24,000 to 26,000. He has, however, under observation at the present time, an advanced case with no leucocytosis. Subserous myomata have no appreciable effect, but interstitial and submucous, with polypoid growths, modify the blood by the drain they produce. In many there is a demonstrable oligemia, and in all a marked leucocytosis. In ovarian disorders the condition sometimes approaches closely to chlorosis, and he describes this condition at some length, explaining the condition as disturbances of the spleen and other organs connected with blood production through the sympathetic. In surgical convalescence the blood states are various. Where they were abnormal before, there is a tendency to return to the normal standard, interrupted by transient leucocytosis depending upon the reparative process. In one class of cases, however, where the convalescence is interrupted by neurasthenic symptoms, there is often a very pronounced leucocytosis. He concludes his paper by stating that his observations, though numbering several hundred, are not sufficient to justify final conclusions.

113. **Puerperal Septicemia.**—The possible confusion of puerperal septicemia with typhoid fever, pneumonia, malaria, and puerperal insanity is discussed by Wilson. In puerperal insanity the course of the disease is the best guide. Typhoid is distinguishable by the slowly developing prodromal stage and rose colored spots, with Widal's test. The value of the latter cannot be overestimated. In pneumonia the character of the sputum and early localization of pain are important points, while in malaria the blood test ought to be sufficient to distinguish it, in connection with the history of the case, the periodicity of the cases and the enlargement of the spleen.

114. **Cornual Pregnancy.**—The literature of cornual pregnancy, especially the cases that have been operated on, and the symptoms of the condition, are fairly discussed by Manierre, who reports a personal observation with pathologic findings. The patient's recovery from operation was uneventful.

123. **Diphtheria.**—Stivers reports two cases of diphtheria treated by the injection of 1,000 and 600 units of diphtheria antitoxin respectively, with complete success. The other members of the family were treated with antitoxin given by the mouth, in small quantities of 50 and 100 units, with complete success as far as preventing the spread of the disease.

132—See abstract in Journal, May 6, p. 997.

135. **Malaria in Children.**—Moncorvo concludes his article on infantile malaria in this number, particularly discussing the therapeutics of the condition. As prophylaxis, he advises change of residence from malarial districts, the use of mosquito-nets, giving children only sterilized water, carefully regulating the diet and using small prophylactic doses of quinin. As regards the therapeutic use of quinin, he says the daily dose for nurslings and for mild cases with older children varies from 25 to 50 cg. In medium cases in older children, he gives 50 to 100 cg. per diem, and in very serious cases he disregards the age and gives from 1.5 to 3 gm. in twenty-four hours. He gives it at intervals of one to two hours, according to the severity of the case. Quinin may be given by the rectum, though he does not find it effective in this way, nor is it of value by the dermic or endermic methods. The hypodermic method, however, has a great future, and he praises both the efficacy and the harmlessness of this. It is necessary to procure a soluble salt in a concentrated form, and all modern aseptic technic must be followed. The injection should be made behind the trochanter or between the shoulder-blades, and deep enough to reach the muscles, as it is thus more certain and painless. He mentions, without expressing a positive opinion, the intravenous method introduced by Baccelli. As regards arsenic, he thinks it valuable as a tonic, but its antimalarial action is too feeble for severe cases. The salicylate of soda has not proved useful, and the cerebral accidents it produces will prevent its general use. As regards the filtered decoction of lemon, advised by some Italian physicians, he has found it hard to administer and would not care to rely on it in pernicious malaria. Antipyrin is highly spoken of, as are also sunflower leaves and flowers, as proposed by certain Russian physicians. Another remedy is methylene blue, which he gives in divided doses of 20 to 30 cg. daily, without especially disagreeable effects. He also speaks favorably of a recent trial of phenocol chlorhydrate given in doses of 25 cg. to 1.5 gm. Asaprol has impressed him favorably from a trial made, but further experience is required. To prevent secondary infection he recommends irrigation of the mouth and nasal cavities with antiseptic solutions, usually boric acid—.5 to 1 per cent.—and salol, bismuth, benzonaphthol, etc., given internally to asepticize the gastro-intestinal tube. He habitually prescribes a mixture containing salicylates of bismuth benzonaphthol and tannigen or tannalbin in diarrhea associated with malaria. For an antipyretic, antipyrin fills all indications. He also recommends hypnotics, trional, chloralose, etc. If the child is overcome by adynamia or algidity, hypodermic injections of ether, camphorated oil or caffein may be used, especially the latter, which, because of its threefold properties—general tonic, cardiac tonic and diuretic—is a most valuable aid. It will also neutralize the physiologic effects of quinin when given in large doses. He ordinarily uses .5 to 1 c. c. of Fauret's solution of caffein, equal to from 12 to 25 cg. of the drug. Care must be used, however, in thus administering caffein to nurslings on account of its action on the medulla. Quinin, however, is still our sheet-anchor in this disease.

136. **Scarlet Fever.**—The principal points in Suiter's article are the prompt, complete and rigid separation of the infected from the uninfected during the entire period of infective danger, and a thorough disinfection of every person or thing that may chance by any possibility to convey the poison. There is no disease, he holds, that can be more certainly placed under restriction if the means are effectively applied, and the failure to eradicate scarlatina is not the failure of the principles of modern sanitary science, but is due to their ineffectual execution.

139. **Closure of Abdominal Incision.** According to McCormack, the closure of abdominal incision after laparotomy should be as follows: 1, a continuous peritoneal suture of

line catgut; 2, an interrupted suture of chromicized catgut for the fascia, with four sutures to the inch; 3, a running suture of catgut for the subcutaneous fat; 4, a subcuticular subcutaneous stitch of catgut for the skin. He claims that the necessity for this or some sort of tier suture can hardly be questioned. The time should have long since passed when any surgeon would use the old through-and-through suture unless the patient is in such a state of collapse that haste is a necessity and hernia and infection are secondary matters.

140.—See abstract in JOURNAL, June 10, p. 1321.

141. **Suprarenal Extract.**—Bate reports a case of Addison's disease in which, assuming that the symptoms were due to deficiency of the suprarenal secretion in the system, the treatment was on isopathic principles, 1/12 gr. of the extract of the suprarenal gland of a sheep was administered three times daily and gave great relief. It had apparently been almost specific in this case.

142. **Displacements of the Heart.**—Recognizing the fact that lateral curvature of the spine may disorder the heart, by displacing it, and quoting from Adams in his work on curvature of the spine, as to this condition and its effect, Satterthwaite describes his method of treatment of these cases. It is a modification of that of Professor Hartelius of Stockholm, and consists in some sixteen movements and exercises calculated to straighten the spinal curve, and relieve the pressure on the heart. These are not entirely subjective, but are aided more or less by the operator and are supplemented by massage of the muscles of the back and occasionally the use of the faradic current. The use of carbonated brine baths of the strength of .75 to 1 per cent. and carbonic acid gas .25 to .5 per cent. is also a valuable adjunct. Tonics, such as iron, strychnin, cod-liver oil and malt extracts are also desirable in the majority of cases. Satterthwaite reports and illustrates four cases treated in this way, and describes his method of measurements used in the illustrations. He remarks that it must not be understood that he is opposed to spinal supports, but he considers them palliative rather than curative, and his method here described has a much wider application and is more scientific. The detailed description of the exercises is too lengthy to be given here, and the reader is referred to the paper itself.

144. **New Series of Therapeutic Agents.**—In this preliminary communication, Schwickerath gives a brief account of certain new preparations. In studying antiseptics, he assumes that they act by influencing soil in such a way as to make it unfavorable for germ life, and he conjectures that certain metallic substances, as mercury and silver, when in union with such substances as have a more intimate relation to animal tissues, might be comparatively non-irritating. Nuclein at once suggests itself, and he has succeeded in securing a pure nuclein in the form of an almost white amorphous powder, soluble in warm water and insoluble in alcohol. Adding to a solution of this, which he calls nucleol, freshly precipitated mercuric oxid, the latter is gradually dissolved; then adding alcohol, a voluminous white precipitate is formed which represents a new chemical compound of mercury and nuclein. Silver, copper and iron oxids react in a similar manner. These new compounds are readily soluble in water with neutral or faintly alkaline reaction, and contain the metals in true chemical combination. They do not precipitate solutions of albuminous substances. Thus he holds we have soluble compounds of these metals, whose action on the tissues will be not chemical but physiologic. Clinical experiments with these compounds not only fulfilled but exceeded his expectations. They possess all the therapeutic advantages of their respective inorganic salts without their disadvantages. More detailed information as to the chemistry of these new products, which he has named, mercurol, nargol, cuprol and ferrinol, will be published in some chemical journal.

146. **Typho-Malarial Fever.**—Grandy discusses the history of the adoption of the term typho-malarial fever, and holds that it can be used only under three possible conditions: 1. As a distinct disease, which no one now holds. 2. As a mixed infection, which has not yet been demonstrated. 3. As two coincident diseases, which is a rare occurrence but does not justify a special name. It is used, however, to describe three conditions that have certain points of resemblance: 1. Atypical typhoid fever, where it is entirely erroneous. 2. In a continued form of malarial fever, equally out of place. 3. In cases where typhoid occurs in a malarial subject and the malarial condition is manifest in the beginning and in convalescence, the typhoid only appearing during the height of the disease. He concludes, therefore, that the term is incorrect and should be abandoned.

147. **Heated Blood in Croupous Pneumonia.**—Elfstrom reports three cases, in addition to those already published (*N. Y. Med. Jour.*, Aug. 27 and Oct. 15, 1898), of the treatment by the subcutaneous injection of heated blood previously extracted and diluted with salt solution. Of the nine cases altogether reported, two died, but he claims that these should not be counted, as they were already complicated with meningitis. The percentage of cures therefore is 100 per cent.

148. **Hip Disease.**—Judson advocates training in gait to obviate the deformity so commonly following hip-joint disease. The proper rhythm of locomotion is, in his opinion, one of the most important things in the treatment. He illustrates his paper, showing the effects and defects of treatment in this condition.

149. **Neglect of Sexual Symptoms.**—The following are the conclusions of Cabot's article: 1. Sexual symptoms in genitourinary practice should be carefully investigated and thoroughly studied. 2. Indiscriminate use of irrigation is distinctly against scientific teaching, its effect on the genital organs often being injurious and causing the spread of the gonococcus. 3. Before urethral instrumentation is employed, every case should be examined per rectum, with a finger educated to the rectal touch. 4. Various forms of remote nervous symptoms are directly traceable to disorders of the sexual organs.

151. **Toxic Origin of Neuroses and Psychoses.**—The theme of McCaskey's paper is the action of toxins in the production of various mental and nervous symptoms, such as vertigo, neuralgic pains, headache, malaise, exhaustion, and local paralyses and spasms. He thinks that if the neurologic study of any given case excludes hysteria and organic disease, a toxic origin must be looked on as possible, and examination made of the urine and the stomach for toxic productions.

158. **Ophthalmia of Newborn.**—Friedenwald criticizes the tendency to overdo the use of nitrate of silver, though maintaining the importance of its employment. A 2 per cent. solution should not be exceeded, and it should be used in strict accordance with Credé's method.

160. **Gastrectomy.**—Richardson reports the after-history of the case of gastrectomy reported in the *Boston Medical and Surgical Journal* of Oct. 20, 1898. A recurrence of the disease was detected in November, and the patient died Feb. 19, 1899, of intestinal obstruction and exhaustion. At the autopsy the joining of the duodenum and esophagus was found intact except at the base of the sinus. He considers the operation of gastrectomy rarely advisable.

162. **Ether Administration.**—Blake describes the method of ether administration at the Boston City Hospital, and claims that it is given on an average better in and about Boston than in any other place in the world, London possibly excepted, and that its methods have greatly improved within the past ten years.

165. **Rectal Carcinoma.**—After noticing the history of operations for rectal malignant disease, Senn states that he wishes to put himself on record as opposed to the sacral route for radical removal of the carcinomatous rectum. He is convinced that all legitimate and well-grounded indications for the radical removal of high rectal carcinoma can be met and ample room for the operation secured by primary excision of the coccyx. In case of extirpation of the rectum below the peritoneal reflexion, even the removal of the coccyx is superfluous. In excision of the upper portion of the rectum, the peritoneal cavity must be freely opened, and ample space for this is usually afforded by removal of the coccyx. When this is not sufficient, the combined operation is preferable. He trusts that the Kraske operation will soon become obsolete in this country. He reports two cases in support of his views: in one the disease involved at least 5½ inches of the rectum without causing serious mechanical obstruction; the other was of high primary origin and was characterized by symptoms indicating mechan-

ical obstruction in the lower intestinal tract. In the first case, the excision necessarily included the sphincter and it was impossible to bring the proximal end down to the level of the anus, and a sacral anus was necessitated. In the second case the lower portion of the rectum remained intact, and he was able to preserve the sphincter by making a circular incision and suturing the proximal and distal ends over the anterior two-thirds of the bowel. A temporary coccygeal anus was necessitated, but this lasted less than two months.

166. **Tuberculous Peritonitis, Gastrostomy and Appendicitis.**—Dennis' paper, concluded from a former number, advises early laparotomy in cases of tubercular peritonitis. As regards gastrostomy, he eulogizes Marwedel's operation as the perfect one of its kind, and reports a case. He formulates rules for guidance as to operation in acute appendicitis.

168. **Thermol in Typhoid.**—This drug is reported on by Miller, who gives a history of eight cases with temperature diagrams, treated by this agent. He claims that it is non-toxic, that it is devoid of irritating properties. The method of its administration is important. His patients were given 2½ grains every three hours, even when the temperature was subnormal, and continued through the whole course of the disease until the temperature remained at normal for a week. He thinks it a far superior remedial agent to the bath and more convenient to administer.

170. **Diphtheria.**—Dunham believes that all persons who harbor the Klebs-Loeffler bacillus in their throats should be isolated, though healthy, and he gives a table of the results of examination of the throats of eleven physicians who had been treating various forms of this disease. In two instances, where diphtheria had been treated, the bacillus was found in the throats. He recommends the following precautions for the restriction of diphtheria: 1. The bacteriologic examination of every patient with a sore throat, not only for the sake of the patient, but also in the interest of others, who, when infected, may have a more serious form of the disease. 2. The isolation, when practicable, and an attempt at the removal of diphtheria bacilli in every case of convalescents and others harboring the germs in their throats. 3. A watchful care should be exercised by physicians to avoid contamination from diphtheria patients, and efforts should be made to free their throats of germs when present.

171. **Tuberculosis, Its Early Diagnosis.**—Bonney suggests close and repeated examinations in case of the existence of any suspicious symptoms. He ends by saying he would especially condemn: 1. Delay in instituting any physical examination whatever until long after the development of pronounced constitutional and pulmonary impairment. 2. Failure to examine on the bare skin, the presence of clothing effectually preventing any approach to accurate results. 3. Neglect to examine the entire chest, the bases, interscapular spaces, and axillary regions being frequently overlooked. He would particularly deplore the existence of: 1. Erroneous conceptions concerning the significance of the absence of percussion-dulness at the apices, an active process often being capable of recognition by auscultation considerably before the evidences of consolidation are apparent. 2. The non-recognition, in the absence of râles, of the various modifications in disease of the normal respiratory sounds. 3. Inaccurate interpretation of localized diminished intensity of auscultatory sounds, elevation of pitch, harshness of quality and prolongation of expiration. He would severely criticize: 1. Failure to utilize cough preceding forced inspiration in eliciting the presence of slight moisture in the finer tubes. 2. The non-appreciation of the almost pathognomonic significance of a circumscribed bronchiolitis, even in the absence of dulness or other auscultatory signs.

175. **Anesthetics in Obstetrics.**—Porter advocates the use of chloroform in obstetrics, believing that the factor of safety is increased by the condition of the patient, though it is a matter to consider that there is danger in its employment. It is generally useful in the second stage, but in a few cases where the pains are weak, and suffering severe in the first stage, it may be advisable. It is also indicated in tedious cases where the cause of the delay is not known, in order to permit a thorough examination for diagnostic purposes.

176. **Comparative Safety of Anesthetics.**—The subject of the comparative safety of ether and chloroform is discussed by Coulter, who quotes Waller's statement as to chloroform being dangerous under all circumstances, and only justifiable under exceptional circumstances, though he admits himself, a preference for it on account of the ease of administration with, nevertheless, an ever-increasing dread of the dangers involved.

177. **Anesthetics and the Kidneys.**—Twitchell discusses some of the evidence in regard to the effect of ether and chloroform on the kidneys, and states that he does not believe and can not find from the records that either one of these agents necessarily influences the kidneys when used as an anesthetic. He thinks that faulty administration of the drug is responsible for the edema of the lungs observed, and he thinks that the greatest mistake made is in the notion that it takes a skilled operator to administer chloroform and that anybody can use ether. The reverse is the case.

FOREIGN.

British Medical Journal, September 16.

Plague: Its Symptomatology, Pathology, Treatment and Prophylaxis. W. J. Simpson.—The author describes the different forms of plague: first, the pneumonic, which is one of the most fatal and dangerous on account of its not presenting the usual clinical symptoms and being liable to be mistaken for lung trouble. Pain, tenderness, and enlargement of the lymphatics are absent, and there are few signs except the severity of the case to indicate the nature of the disease. Besides being the most infectious, this is the most fatal form, and the only reliable test during life is the examination of the sputum by Haffkine's stalactite test, consisting of cultivating the microbe in broth to which drops of clarified butter or cocoanut-oil have been added. From the drops of oil suspended on the surface of the nutrient medium, the bacilli grow down into the depths of the liquid in the form of stalactites, which is a peculiarity not observed in any other germ under these conditions. The second form mentioned is the mild or ambulant one, which is, if anything, more likely to escape notice than the pneumonic, as it is commonly mistaken for other troubles. The symptoms are fever, pain, tenderness, enlargement of the glands, weakness, etc. It is not in itself necessarily fatal, but it leaves the patient weak and debilitated, and is likely to be followed as an epidemic by the more severe type. In some cases examination of the blood does not show the characteristic bacilli. The ordinary bubonic type is best known, and the clinical features are those usually described. The septic variety is a virulent type, in which the lymphatic glands show no special enlargement during life, but the bacilli invade the blood in large numbers and are easily detected. The chief characteristic of this form is its rapidity, the patient dying often within one, two or three days. In post-mortems nearly all the lymphatic glands are found slightly enlarged. Treatment has had but a small effect in most serious epidemics. All that has been done is to secure the best condition for the patient to make a good fight against the disease. This consists in confinement to bed, good nursing, careful feeding, and general treatment to keep up the patient's strength and prevent complication. Ice-bags to control fever, and non-depressing hypnotics, have been found useful. To sustain the action of the heart alcoholic stimulants, ammonia, strychnin and digitalis have been freely employed. The precautions are anything that can prevent the spread of the disease, thorough disinfection of everything from the patient, and in case of death a sheet soaked in strong antiseptic solution should be wrapped around the body and carbolized sawdust be put in the coffin. Nurses, doctors, friends and all exposed should be inoculated with Haffkine's prophylactic serum.

Mosquitoes in Relation to Malaria. Ian MacDonald.—The author reports experiences with malaria in a region in Spain containing both healthy and infected sections. In the former he found only five species of culex abounding. In the latter, besides four of these, the anopheles claviger was found in all and two other species of the same genus in some. He asks: Are these facts mere coincidences?

Relationship Between Syphilis and General Paralysis of the Insane. Alfred W. Campbell.—Campbell reviews the arguments for and against the connection of syphilis and paresis, and on the whole rather favors the theory of the syphilitic origin of the latter.

Congenital General Paralysis. P. W. MacDonald and A. Davidson.—The authors report three cases, that had been accounted as congenital idiocy, in which post-mortems revealed the lesions of general paralysis. In their opinion the paresis was inherited, but they did not find syphilitic history in any of their cases.

In the discussion following these two papers above, several of the partakers did not admit syphilis as the sole cause though admitting its frequent connection with the disorder.

Lancet, September 16.

Increase of Cancer. Joseph Frank Payne.—Recognizing from statistics the apparent increase of cancer in England and Scotland, Payne discusses the question whether this is a real one or otherwise. He concludes that cancer is becoming increasingly frequent, and that there is a marked predominance of cancer of the digestive organs, with a less rapid increase of that of the generative organs. The causes of this increase are discussed in detail: 1. Heredity, which he does not consider actually proven; 2, increased longevity, which he thinks is also invalid; 3, the statistics show that with the increase of cancer there has been a decrease from tubercle. He mentions this fact but does not explain it. There has also been a decrease in deaths from infectious diseases, as shown by tables. It has been assumed by some that cancer is a disease of the well-to-do, therefore its increase is associated with increased prosperity. The poorer classes in Great Britain have been better off of late years, and have become more carnivorous, which may possibly have something to do with the fact. Another thing is the increase of alcoholism, and statistics seem to show that certain classes who are subject to special temptation in this direction rather lead in cancer statistics. He also suggests that urban life may have something to do with it, as cancer is less frequent in country districts than in towns. He is not, however, prepared to admit the importance of any of these to any great extent. The only thing positive is the increase of deaths from cancer.

British Gynecological Journal (London), August.

Treatment of Gonorrheal Salpingitis. J. W. Taylor.—After a description of cases, and general discussion of the subject, Taylor lays down the following points which he is disposed to maintain in regard to gonorrheal salpingitis: 1. A large number of women who are suffering from tubal disease have been at some time or another exposed to infection by syphilis as well as gonorrhea. These undoubtedly show marked improvement after a prolonged course of mercury and iodid, and in the course of this treatment, unless acute pyosalpinx intervenes—in which medicine is useless—it is the rule rather than the exception for all gross physical signs of the disease to slowly and permanently disappear. 2. Many cases in which there is no history of syphilis, including cases in which there is unmistakable history of gonorrhea, pure and simple, as the sole cause and starting-point of tubal disease, do similarly improve and get permanently well under the same course of treatment, provided always that the disease stops short of acute pyosalpinx and its dangerous complications. 3. Acute pyosalpinx is peculiarly liable to occur in the first place on the left side of the body and its special severity is probably due to secondary infection from the rectum. The cases of pyosalpinx, whenever possible, should be treated by free incision of the posterior vaginal fornix, by thorough exploration and emptying of all pus-cavities from the pouch of Douglas, and by iodoform gauze drainage. This is far preferable to the older operation of removal of the appendages, which is not only much more dangerous, but is peculiarly liable to be followed by fecal fistula, an operation sequel sometimes worse than death itself. 4. Such cases of mixed infection and acute suppuration, treated by operative evacuation of the pus, with or without removal of the appendages, do sometimes not only recover but remain permanently well without further treatment, the acuteness of the inflammation appearing to terminate the process of infection. In other cases, recovery is not so complete or relapses are met with, and these cases should be followed up by a course of specific treatment, the beneficial results of this being often immediately manifest when the wound tissues are unhealthy and the healing is delayed. 5. Occlusion of the tubes and peritubal adhesions consequent on gonorrheal adhesions have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis which has been caused by salpingitis. Their absorption and disappearance will not, therefore, be necessarily secured by the cure of the gonorrhea, and sterility may persist although gonorrhea is entirely eradicated from the system. 6. In gonorrhea of the pelvis, there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus. In these cases operative removal of the organs affected will still be required, and vaginal hysterectomy, whenever possible, with or without extirpation of the uterine appendages, is not only the most rational operation in theory, but is productive of the best final results.

Archives Int. de Laryngologie, etc., May and June.

Empyema of Sinuses in Relation to General Affections. P. Lapalle.—In 169 autopsies, empyema of one or more of the sinuses was noted in [illegible]; sinusitis in a third, mostly men. The accompanying diseases, classified according to the frequency of the sinusitis, were: acute pulmonary affections, tuberculosis of lungs or meninges, cancer of stomach and intestines and diseases of the heart, brain and kidneys. Maxillary sinusitis was more than twice as frequent as sphenoidal, and eight times more than ethmoidal. Neither ethmoidal nor frontal sinusitis was ever found alone. Lapalle queries whether the sinusitis was the cause or the effect of the general affection or entirely independent, or whether the constant swallowing of the pus may not have created a soil of lessened resistance, with local and general intoxication of the organism, himself inclining to the latter view.

Revue de Chirurgie (Paris), September 10.

Lesions of Lateral Sinus in Traumatisms of Skull. Gangolphe and Piery.—Only eight observations could be collected for this monograph, one personal. The patient in the latter was found on the stairs, with no signs of a fracture but with the complete syndrome of apoplexy from cerebral hemorrhage, and even after several examinations intervention was not supposed to be indicated. At the autopsy the occipital was found fractured, and with it the sinus, resulting in the formation of a hundred-gram clot of blood above the dura mater. There was also a sheet effusion of "gooseberry jelly blood" over the surface of the external aspect of the hemisphere of the opposite side. Depression and compression of the convolutions by the large clot had evidently been the cause of the left hemiplegia noted, although the convolutions at the central sulcus escaped direct compression. The same cause may have induced the contractions noted in the right side, or possibly irritation from the sheet effusion. The acceleration of the pulse was accepted as evidence of the non-existence of a fracture, as Duret has announced that pulse and respiration grow slower after subdural injections. The conclusions are summarized as follows: Lesions of the lateral sinus in traumatisms of the skull may be produced by laceration from a splinter or rupture in consequence of disjunction of fractured bones. These lesions of the lateral sinus determine the production of a hemorrhage which accumulates in a clot between the dura mater and the skull, location and extent of the clot controlled by the adhesions of the dura mater on the one hand and its prehemorrhagic detachment on the other. An intra-arachnoid, semifluid sheet effusion over the opposite hemisphere frequently coincides with the hemorrhage. The symptomatology is most variable. It is far from realizing the complete picture of cerebral compression, and may simulate apoplexy from cerebral hemorrhage in every detail. Diagnosis is generally impossible, but in dubious cases, even when the traumatism and the apoplectiform ictus are the only guides, we must proceed as if assured of the existence of an intracranial sanguine effusion of traumatic origin: if the lateral sinus is exposed, extract splinters and foreign bodies and tampon the breach in the bone, and if it has not been opened by the traumatism, trephine at once, applying the trephine at the point of the traumatism, disregarding the indications furnished by the cerebral localizations, which may, as in the personal observation described, mislead the surgeon.

A Thousand and One Laparotomies. V. Sneguireff

Our Moscow confrère has included in this summary only those laparotomies performed in his clinic and institute during the last ten years, in the presence of numerous spectators, with an autopsy of every fatal case, 98 in all, but only 58 directly im putable to the operation, or 5.8 per cent. Since he began using reindeer tendons for his suture material (see Journal, July 8, p. 99), he has not had a single mishap in sixty laparotomies. Other points in his technic, worthy of note, are his practice of discarding his instruments during the operation and taking fresh ones from the sterilized water in which they lie ready for him; also the copious use of salt solution within and without, before, during and after the operation, to remove pus, débris and blood, as a stimulant during long operations, hence in all serious cases, also when the intestines are drawn out, also for a hemostatic, in place of subcutaneous injections, and lastly as a diagnostic measure to discover the source of a hemorrhage. He thus rinsed the abdominal cavity in 215 cases, and believes that it prevents septic peritonitis or arrests it if already developed, and is an extremely active means to reanimate the organism and enable it to support the operation better. Drainage, of course, follows. He notes the fact that the mortality was higher in one institution than the other, and suggests that in one physicians alone are spectators, while students also are admitted to the other. Regulations exclude all who have been in the dissecting-room or at a case of contagious disease, but this rule may have been sometimes evaded. He also notes a kind of periodicity in the accidents: if one has fever others are liable to follow, etc., which he is inclined to attribute to the condition of the atmosphere and of the health of the medical staff, affirming that if the surgeon is indisposed or fatigued, he ought not to undertake a difficult laparotomy, as the success depends on his faculty of tension of mind and energies. He lays particular stress on the importance of and benefits to be derived from autoplastics, as he calls his practice of covering every lacerated, denuded or exposed surface with peritoneum, thus rendering them all extraperitoneal and entirely preventing and protecting against septic peritonitis and other harmful consequences. "It transforms a complicated case into a simple one, and surgery of the cavities will have made great progress when these autoplastic procedures have been more thoroughly studied and perfected." Since he has been applying them, he has not had a case of intestinal obstruction ([illegible]4 operations). Catheterization of the bladder is important to control the integrity of the organ after total hysterectomy, etc., and the simultaneous use of oxygen with the anesthetic is a valuable means to sustain the heart. Not once was a compress or instrument forgotten in the abdomen, but he confesses that once a mistake was made in the invariable preliminary count, and a second and third laparotomy were done in the search for an imaginary missing compress, resulting in fatal peritonitis. Death from the heart is more frequent among persons with a weary or worn-out nervous system. Obese women, he adds, are also poor subjects for any surgical intervention.

Structure and Function of Kidneys After Occlusion of Renal Vessels. R. Alessandri.—The renal artery or vein or both, in dogs and cats, were ligated in an extensive series of experiments, with the result differing from that of previous research, that compensation may develop after ligature of the renal vein, to an extent which enables the organ to recover almost complete normal structure and function, permitting the ablation of the other kidney in about three months. The same result follows ligature of the renal artery, with the difference that in the cat the compensation is less perfect than in the dog, and zones of necrobiotic infarcts appear in the uncompensated regions. Compensation is so complete in the dog—and would probably be still more perfect in man—that the organ returns to almost normal structure as the phenomena of stasis subside. He found that ligature of both artery and vein is incompatible with the life and functioning of the epithelial portion of the kidney, but that the collateral vascular anastomoses suffice to prevent rapid necrosis of the organ, and all that occurs is a gradually progressive cirrhosis which encroaches more and more on what remains of the tubules and glomerules. Consequently, although it may be impossible to preserve even a portion of functioning renal substance after ligature of the pedicle, still, the organism is not menaced by a rapid necrosis of renal tissue. This tissue, on the contrary, is still capable of a relative life or a fibrous transformation from proliferation of the interstitial connective tissue, which does not die like the epithelial portion. (28 cuts).

Semaine Medicale (Paris), September 6 and 13.

Tridermic Tumors of Ovaries and Testicles. F. Munch.—The most prominent characteristic of dermoid cysts of the ovaries and testicles, distinguishing them from dermoid cysts occurring elsewhere, is that they are composed of the three layers of the embryo; the ectoderm, endoderm and mesoderm, and hence Munch suggests, as the most expressive name for them, "tridermic tumors" as more appropriate than Wilms' "rudimentary parasites" or "embryomata" for encysted tumors, and "embryoid tumors" for the solid variety. His article is a review of recent research, already summarized in the Journal, pages 487 and 603. The theory of the pathogenetic origin seems to be established for the ovary, and is sustained in regard to the testicles, by Balbiani's observation of primordial ovules in the testicles of subjects under puberty, although no such parthogenetic process has been noted in male animals. The rarity of these ovules, however, is an argument against this assumption, as also Wilms' observation of a tridermic tumor originating in the seminiparous epithelium. The absolute identity of these tumors in the ovaries and in the testicles has not yet been definitely established; the presence of certain organs in the latter, the nervous system for instance, needs further confirmation.

Diagnosis of the Affection Called Pregnancy Chorea. Gilles de la Tourette.—Four years ago this author demonstrated that the so-called tetany of pregnancy was not a morbid entity as hitherto considered, but a manifestation of hysteria, and he now proves practically the same in respect to the so-called chorea of pregnancy. If the cases on record, and new observations, are studied by the light of modern science, they will be found to have nothing in common with Sydenham's chorea—which he believes, with Sydenham, has no existence after puberty—nor with that rare affection, chronic chorea, and still less will they be found to have any connection with the pregnancy. He asserts that the so-called chorea of pregnancy is merely an exacerbation of a chronic *tic convulsif* on a basis of hysteria, and study of the antecedents will always disclose the influence of heredity, spasmodic symptoms and psychic abnormalities dating from earliest childhood, possibly insomnia, somnambulism—which he considers a token of impending hysteria—facial spasms, etc., with coprolalia later. An important sign is the incoordinated, abrupt, arrhythmic and angular character of the movements, and the fact that they can be arrested by the will, for a few moments, if the patient can be induced to exert her will, recurring then with increased intensity. The pregnancy is only a factor in so far as it is unwelcome or for other reasons the psychic balance happens to be disturbed at the time. The affection has been treated by artificially terminating the pregnancy in many cases, but this will no longer occur when it is recognized as a chronic *tic convulsif* existing from early childhood, although its manifestations may not have previously attracted attention to their pathologic character.

Berliner Klinische Wochenschrift, 4.

Costal Stigma in Etiology of Enteroptosis and Nervous Dyspepsia. B. Stiller.—The downward dragging of the intestines usually occurs in youth, seldom in childhood or in later years, and is due to a congenital, generally inherited disposition, which always involves a weakness of the central and digestive nervous system and is often indicated by a slender build and pathognostically by the mobility of the tenth rib, due to a defect in its cartilaginous attachment. Comparatively slight accidental causes have a rapid and profoundly depressing influence on the nutrition and nerve power in persons with this coctal stigma, inducing the most severe dyspeptic neurasthenia. "Enteroptosis and nervous dyspepsia are identical, and the troubles in enteroptosis proceed from the primary neurasthenia." Atony of the stomach is an early symptom of enteroptotic dyspepsia, also frequently hyperacidity and constipation. The condition is encountered in men as often as in women. The costal stigma is sometimes noted in chlorotic, hysteric and phthisic subjects.

Renal Insufficiency and Curare. A. V. Koranyi.—In case of renal insufficiency, the osmotic pressure is increased by the retention of molecules, in solution, which renders the task of eliminating water more difficult for the heart and lungs. The cause of polyuria with shriveled kidney is the hyposthenuria, that is, the inability to evacuate a highly concentrated urine with retained permeability to a certain extent for solid molecules. The aim of therapeutics is to reduce the osmotic pressure, and this is attained by restricting the albumin metabolism, best accomplished with curare, which Koranyi considers equal to the most approved diuretic and diaphoretic remedies and able to enhance their effect. Rabbits injected with curare, after removal of both kidneys show its influence in the slower lowering of the freezing point of the blood and the longer survival, in proportion to the amount of curare injected.

Centralblatt f. Chirurgie (Leipsic), September 16.

Extirpation of Lymph Glands in Inguinal Region and Along the Iliac and Obturator Vessels in One Operation. K. G. Lennander.—The incision is carried from the symphysis along Poupart's ligament to and along the edge of the iliac crest. The lower glands are first removed and then Poupart's ligament is cut loose from the tuberculum, pubic crest, fascia lata and fascia iliaca. The vasa epigastrica inf. and the vasa cir. il. int. are cut between two ligatures. The glands are extirpated as the operation proceeds. The incision is carried through the muscles close to and along the iliac crest, and the peritoneum is then easily detached from the iliac fossa and small pelvis with the vas deferens, etc. The lymph glands around the femoral ring and vasa iliaca ext. to the fork of the art. iliac comm. can then be easily removed, carrying the incision as far as necessary, and providing for ample drainage. Poupart's ligament is then replaced and sutured, also the muscle wall to the iliac crest. No motor nerve is cut, and there is no possible chance for hernia to develop from this operation, which can be divided into two sittings a week apart if desirable.

Muenchener Medicinische Wochenschrift, September 12.

Treatment of Chlorosis With Rectal Injections of Iron. O. Jollasse.—This communication announces the welcome news that in fourteen cases of chlorosis, in which gastric disturbances rendered the administration of iron *per os* impossible, three daily injections of ferrum citr.—0.1 to 0.6 to 50.0 amylum —increased the hemoglobin an average of 6 per cent. a week, which is not much below the average of 9 per cent. attained with the administration of Blaud's or Vallet's pills *per os*, and is actually higher than the 5 per cent. average after giving tr. ferr. comp. Numerous tests and experiences with various iron preparations, etc., are tabulated, and confirm the great value of iron suitably administered, and the necessity of rest in bed which, alone, will cure the headaches, etc., for the time being, but has no effect on the amount of hemoglobin. The rectal injections sometimes in certain cases cause pain in the abdomen, but it is not severe, and can be attenuated by the application of warmth.

Truss for Cardiac Asthma. E. Abee.—A bandage and pad somewhat similar to a truss but larger, is worn over the apex of the heart with the effect of relieving the symptoms in the most surprising and satisfactory manner. Among the observations described, one case of chronic nephritis, with hypertrophy and dilatation of the heart and cardiac asthma, the patient only able to creep slowly along, is so relieved by the truss that the subjective symptoms have almost entirely ceased and a half hour's walk can be taken without discomfort.

St. Petersburger Medicinische Wochenschrift, September 9.

Examination of Pelvic Organs Per Rectum. A. P. Gubarew.—Extremely accurate information can be derived from the following modification of Kelly's method, according to the writer's experience: a cylindric speculum with a stopper is introduced into the rectum, the patient in the knee-chest position. The stopper is then removed, which allows the entrance of air into the rectum. The speculum is then also removed and the patient turned on her back with the pelvis elevated. The folds in the rectal mucous membrane are smoothed out and the anterior wall of the rectum clings to the posterior wall of the uterus and the lig. latum, like a thin membrane. The position and shape of the organs, ligaments, sacral plexus, bones of the pelvis and, with a little practice, even the ureters can be palpated. The uterus can also be drawn down and the vagina explored at the same time.

Lymph Glands After Extirpation of Cancer. N. M. Wolkowitsch.—In a patient whose entire larynx was removed a couple of years ago, on account of cancer, with no recurrence to date, the lymph glands in the region of the lower jaw are very much hypertrophied, but soft. This hypertrophy is evidently compensatory, as occurs in the supraclavicular fossa after evacuation of the axilla, or over Poupart's ligament, after evacuation of a focus in the inguinal regions; "the hypertrophy of the glands under these circumstances must not be confounded with cancerous degeneration."

Mechanism of Hypertrophy of Heart. M. Michailow.—This communication states, as the results of experimental histologic research, that ligating one uterer or one of the renal arteries causes the heart to hypertrophy as in nephritis. This hypertrophy is at first induced by a chemical irritation of the heart by the altered blood, which is demonstrated by the rapid appearance of alterations in the cardiac ganglia, muscles and vessels. The nerve-cells of the ganglia multiply by mitosis and direct segmentation. The muscles also at first increase in the same way, afterward becoming hypertrophied. In the cardiac vessels neoformation of vessels could also be noted with diffuse sclerosis.

Primary Multiple Cancer. N. Petroff.—At the autopsy of a man who had succumbed to cancer cachexia, an epithelial cancer was found in the pharynx and a cylinder-celled cancer in the lesser curvature of the stomach.

Agglutination by Red Corpuscles. F. Tschistowitsch.—"The agglutinating property is not produced by the serum, but by the red corpuscles; it is yet undecided whether the phenomenon is of a purely physical character or a ferment effect."

Ectractio Cataractae Without Iridectomy. T. Ignatieff.—Iridectomy is sometimes dangerous and always superfluous in removing a cataract, except in case of easily recurring prolapsus iridis, or serious posterior synechiae preventing evacuation of the cataract and the complete collapse of the capsule after incision. "It is merely a relic of preantiseptic days."

Perforation of the Intestines by Ascarides. Kompanzeff.—At the autopsy of a soldier who had died with symptoms of perforation peritonitis, three ascarides were found in the small intestine, one of which was half through a hole in the intestinal wall.

Giornale Int. de Scienze Mediche (Naples), 8, 9 and 10.

Effect of Parathyroidectomy. Capobianco and Mazziotto.—There are four parathyroid glands in monkeys and other mammals. The blood-vessels are surrounded by spaces in which a hemogeneous granular substance is found which reacts similarly to colloid substance. The vascular connection is very intimate between the thyroid and the parathyroids. Extirpation of all these parathyroids leads to the rapid death of the animal with the same or exaggerated symptoms, as after thyroidectomy, including the lowering of the temperature. Partial extirpation is not injurious if even one parathyroid is left.

Head Jerks With Aneurysm of Aorta. Bruschini and Coop.—Besides the laryngotracheal jerks observed with aneurysm of the arch of the aorta, these writers call attention to the rhythmic jerking of the head forward, and occasionally sidewise, caused by a counterjerk as the pressure of the aorta on the trachea is felt. It is more important than the laryngotracheal pulsation, as it usually precedes the latter and is much more distinct, the intensity corresponding to the amount of adhesion of the aneurysm to the surrounding tissues. Gradual disappearance of this symptom can be regarded as a favorable sign, indicating a gradual coagulation process in the aneurysm. Its sudden disappearance may indicate the rupture of the sac.

Disinfection of the Mouth.

C. Roese announces that numerous—about 264—tests with various disinfectants for the mouth have convinced him that 50 per cent. alcohol is not only powerfully bactericidal—as others have established—but that it has a specific healing effect on the diseased mucous membrane of the mouth, producing an arterial fluxion, under the influence of which the venous stasis of the diseased gums disappears and they return gradually to normal. It is impossible to rinse the mouth effectively with it on account of the smarting of the roof and sides of the mouth, but the gums are less sensitive, and his method of applying it is to have the tooth-brush dipped in the alcohol. He urges chemists to devise some preparation for a tooth cream combined of alcohol, precipitated chalk and an appropriate antiseptic.—*Muench. Med. Woch.*, September 5.

Societies.

COMING MEETINGS.

Wyoming State Medical Society, Laramie City, October 10.
American Academy of Railway Surgeons, Omaha, Neb., October 12–13.
Vermont State Medical Society, Burlington, October 12–13.
Medical Association of Central New York, Syracuse, October 17.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, October 24-26.
New York State Medical Association, New York City, October 24–26.
Medical Society of Virginia, Richmond, October 24-26.
American Public Health Association, Minneapolis, Minn., October 31.

Medical Society of Virginia.—This society will hold its thirtieth annual meeting in Richmond, October 24, 25 and 26. In addition to the large number of papers on the program for the various sessions, there will be clinics both at the Medical College of Virginia and the University College of Medicine on the afternoons of the 25th and 26th.

Association of Military Surgeons of U. S.—At the recent meeting of this Association, held in Kansas City, Mo., the following officers were elected: President, Col. Charles H. Alden; vice-presidents, Gen. G. H. Cook of New Hampshire, Capt. George Worth Woods of Brooklyn; secretary, Lieut.-Col. Charles Adams of Chicago; treasurer, Lieut. Herbert A. Arnold of Ardmore, Pa. The next meeting will be in New York City. These columns will contain a further report of the recent meeting, in forthcoming issues.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Abstract of Proceedings of Twelfth Annual Meeting, Held at Indianapolis, Ind., Sept. 19, 20 and 21, 1899.

(Continued from Page 862.)

FIRST DAY—AFTERNOON SESSION.

COCCYGEAL DERMOID FISTULAE.

Dr. Robert T. Morris, New York City, made some remarks on this subject. It is apparently one that has not received very much attention, as he finds little reference to it in the literature. Occasionally some one has reported the finding of a dermoid cyst in the coccygeal region, but without making comments on the way in which such cysts are likely to have been formed. He has seen reference to cysts only, but on making a study of the subject he finds that surgeons are much more apt to find fistulæ than cysts. They are more apt to find depressions than fistulæ. In the region of the coccyx, not infrequently funnel-shaped depressions of the skin are found. Fistulæ are less frequent, extending to a depth of from half an inch to four inches in his deepest case; and still less frequently wholly encapsulated cysts are observed. The fistulæ and cysts contain straight hairs, mostly of the lanugo type, although he has seen some nearly three inches in length, straight, in a mass, and welded together by sebaceous material. The sebaceous material escapes from the fistulæ in large quantities; it remains encapsulated in the cysts and in the funnel-shaped depressions; it frequently dries on the surface and comes away in the form of scales mixed with epidermis. When his attention was directed to the subject, about a year ago, he was surprised at finding the proportion of cases in which he noticed these funnel-shaped depressions or fistulæ, or cysts of the coccygeal region, or dermoid cysts. It evidently represents an embryonal defect, and what this defect is he leaves the Fellows of the Association to suggest. There is a possibility that the tail of the embryo undergoing involution leaves a portion of the skin highly endowed with embryonal latent cells, and that the skin, developing more perfectly in the connective tissues about it, encapsulates, in part or in whole, this absorbing or involuting embryonal tail, so that in a coccygeal fistula we have an inverted tail. He has had four cases of coccygeal fistulæ containing masses of hairs, in his practice up to the present time.

In trying to remove them the surgeon must remove the entire cyst wall or fistula wall, because it consists so largely of embryonal tissue that recurrence takes place promptly following the operation, unless this is done. The method of treatment with nitrate of silver and with caustics results only in temporary destruction of the inner layer, just as when surgeons try to destroy branchial cysts or branchial fistulæ, consequently recurrence takes place very promptly from the deeper layers of embryonal cells, the latent cells forming the structure again, so that they must be entirely removed. The author cited a case in point and exhibited microscopic slides.

HOUSE-TO-HOUSE OPERATING.

Dr. Edwin Ricketts, Cincinnati, Ohio, read this paper. The skilled abdominal and gynecologic surgeon of to-day is a product of surgical evolution, to which no man ever gave such an impetus as the great and lamented Mr. Lawson Tait. From him we learned that the best results depend on simplicity, thoroughness, rapidity, and rigid cleanliness; that his best work was done in house-to-house operating.

The advantages are many, and, briefly, are as follows: 1. The greater ability of the general practitioner to attend to the after-treatment, assisted by a competent nurse, the telegraph, and telephone. 2. The absence of the mental dread of the patient to go into an institution, and the risk therein entailed, a condition by no means to be underestimated. 3. Iron bedsteads and improved household furniture are rapidly finding their way into country homes. 4. God's pure air, and undeniably, less liability to infection.

With reference to the use of antiseptics, it is unnecessary to mention but one fact, a quotation from Richelot, that "the elimination of all micro-organisms during the operation by antiseptics has not been attained." Consequently their use is to be condemned, and in their stead we should rely on hot water, a dry wound, and rapid operating, which means a shorter time under the anesthetic, a very important consideration.

Dr. Walter B. Dorsett, St. Louis, Mo., said that the word simplicity in surgical work carries with it a great weight. The greatest men are known by their simple way of expressing themselves; and the greatest surgeons are known by their simple way of operating. There are many points that should not be overlooked in regard to the advisability of isolating patients from house to house. In the first place, the surgeon could not maintain the same dicipline in a private house that he does in a hospital, whether there be a trained nurse or not, because the friends and relatives of patients are constantly coming in, they carry with them the bacteria, and they have a certain amount of influence over the patient. The nervous system of the patient is more or less disturbed, and he thinks the recovery in a great measure is retarded. He is willing to admit that in hospitals a great many things are done that should not be done. Cleansing the hands by different methods is entirely unnecessary. He has used bichlorid of mercury in cleansing his hands, washing them first with soap and water. He has also used carbolic acid, creolin, etc. He believes green soap, and plenty of it, and good hot water are all that is necessary.

Dr. J. Henry Carstens regretted that the paper had been read, because he believes that its teachings are wrong and vicious. A great many general practitioners, after reading the paper, would laugh at aseptic surgery, as well as antiseptic surgery, and they would say there is no use in trying to practice it. When it comes to operating he believes patients do far better in a hospital than at their private homes. A cervix operation or a perineal operation might be done at a private home, but when it comes to doing major operations he believes it is far better to have patients in a hospital, where the surgeon has all the facilities for operating, etc. His success would be greater, and his mortality lower. He deprecates belittling aseptic precautions, and emphatically protested against it, because it would have a demoralizing effect on the whole profession.

Dr. William H. Humiston thought that if Dr. Ricketts was taken seriously it would be a backward step of fifteen years. He could not believe that the essayist was serious in all the points he had made. Any one who has seen Tait operate knows that he was the perfection of cleanliness. Bantock was likewise one of the cleanest operators. Personally he prefers to operate in a hospital, because there is less annoyance to the patient as compared with a private home.

Dr. Willis G. McDonald, Albany, N. Y., said it was very disagreeable for him to disagree with his friend, the essayist. If our present system of operative surgery is correct, if it is based on the destruction, or better, the evidence of micro-organisms, then the most painstaking technic which can be devised should be followed. He would not dispute the fact that the essayist could operate in almost any private house, but there was no likelihood of his having sterilized water to use about his patient, or about his hands, in any part of the building. In the State of New York people were beginning to appreciate what a good hospital really means; they appreciate what a good training-school for nurses means; they appreciate that they can be made much more comfortable and the chances of recovery are immeasurably increased by going to hospitals instead of remaining at their homes to be operated on.

Dr. Rufus B. Hall said he would defend the essayist if he had confined his remarks to emergency surgery, because he believes a certain amount of emergency surgery must and ought to be done in private houses, in a boarding-house, in a hotel, or any place the patient happens to be. He concurs in the remarks of Dr. Carstens that it is wrong for the patient and for the profession to have it go out from the Association that its members indorsed the sentiments expressed in the paper. Emergency cases, such as ectopic pregnancy, appendicitis with suppuration, gunshot wounds, and stab wounds, etc., must necessarily be treated or dealt with surgically at their homes, but to choose to go into the country log-house or frame-house and do these operations as a matter of choice, is a great mistake. The principal reason for refusing to do such operations n country homes is the increased mortality. The care of the patient and great anxiety of the operator are enough to deter one from doing house-to-house operating.

Dr. John Milton Duff stated that the Association occupied a prominent position in the medical profession of America, and its dictum goes out all over the country, and he would be sorry indeed to have it go out that the members favor house-to-house operating, believing that the lazy and ignorant members of the profession would have an excuse for not doing their full duty in antisepsis and asepsis.

Dr. Robert T. Morris said the matter had to be settled by statistics. The only ones which he had in mind were that he had lost eleven appendicitis patients, two in hospital, and nine n house operations. The operations done in hospitals were ertainly more than five times those done at private homes.

Dr. James F. Baldwin differed with the essayist regarding he statistics of Dunlap, mentioned in the paper. The mortalty-rate of Dunlap's cases was not 15 per cent., as mentioned by he essayist, but fully three times 15 per cent. The speaker knew this from a conversation he had had with Dr. Dunlap ome years before his death.

Dr. Ricketts, in closing the debate, said that the fuss and eathers of surgery had to go, and so far as taking care of patients is concerned, they could be taken care of in their own homes by house-to-house operating equally as well as in hospitals, as there was no risk of room-to-room infection, the ame as in a hospital. The only case of erysipelas he ever had was encountered in his own hospital. He had never met with uch a case in house-to-house operating. Finally, he believes hat the pendulum which has swung far out will swing back to he center of common sense and cleanliness in less than ten years from now.

PRIMARY SCLEROSIS OF THE OVARIES.

Dr. William H. Humiston, Cleveland, Ohio, read a paper n this topic. He said that there are two distinct pathologic onditions now classed as sclerosis of the ovaries, and univerally believed to be due to inflammatory changes. There is a primary or non-inflammatory sclerosis, and a secondary or inammatory fibrosis. These forms can be recognized both clincally and by microscopic examination. In the secondary degenerations is found—in a section taken from some portion of he ovary—a small round-celled infiltration, or the connective issue elements in some of their various stages of development. Also, however advanced the stage of fibrosis may be, the numerical relation of nuclear to cellular elements in this variety s always greater than in the primary form. The microscopic ppearances of the vascular system are also different. In the nflammatory group there is primarily a dilatation of the essels with secondary contractions of their greatly thickened walls and a lessening of their lumen. In the primary group here is usually no thickening of the vessel walls; there is never ny dilatation, and contraction occurs so early that one immediately notes the poor blood-supply, particularly to the periphery of the organ. In those cases of arteriosclerosis of the vessels, within the broad ligament is usually found the condition extending to the vessels entering the ovary, not otherwise. Lastly, in the primary group the epithelial cells of the ovarian stroma are diminished in number and usually in size. In some sections they are hard to distinguish from the connective tissue elements, and appear to be undergoing a process of reversion. These several microscopic differences are constant and decidedly marked.

The diagnosis should be based on the result of palpation of the diseased organs. The cirrhotic ovary is smaller than the normal, is hard and inelastic, and usually deeply corrugated. A sclerocystic ovary is usually larger than the normal organ, and is distinctly globular rather than ovoid. The tunica albuginea is always greatly thickened and is firm and unyielding. The size of the organ is due to the enlarged follicles just beneath the tunica. The hilum first shows the corrugations.

Summarizing the history and points for differential diagnosis, he says that the condition is non-inflammatory and without a history of infection and without signs of peritonitis. It occurs in early life, from puberty to thirty, with dysmenorrhea often since the first catamenia. Amenorrhea or delayed menstrual flow and intermenstrual dysmenorrheic pain, described by every patient as being alike in character and severity, with the pains experienced during each catamenia, are constant. This latter symptom differentiates the origin of the dysmenorrhea, making it clearly ovarian rather than uterine in its causation, and in itself is of chief importance clinically.

In not a few cases there is evidence of granular and contracted kidney. In a large percentage of cases, a marked sclerosis of the walls of some one or more arteries can be demonstrated. The ovaries, one or both, are always within reach of the examining finger, and its condition as to size, shape and consistency can be determined.

Neurasthenia develops early in these cases, but is often superseded by one of the various neuroses.

INTESTINAL ADHESIONS IN SUPPURATIVE PELVIC DISEASE: THEIR SIGNIFICANCE AFTER VAGINAL HYSTERO-SALPINGO-OÖPHORECTOMY.

Dr. F. Blume, Pittsburg, Pa., read a paper with this title, with report of a case of ileus. The author stated that the time has passed when a surgeon can say, without jeopardizing his reputation, that he operates exclusively by the abdominal or the vaginal route. Since the introduction of vaginal hysterectomy, and the revival of vaginal incision and drainage, our views regarding the treatment of suppurative pelvic diseases have undergone remarkable modifications. We have learned to appreciate the value of the differential diagnosis between the various forms and stages of the disease. We realize that there is no longer but one method of surgical treatment and that, in order to do justice to the patient, we must select that method best adapted to the case. He has seen many women, who, after abdominal section for pelvic suppuration, performed in this country and abroad, were invalids, and he has done secondary operations on a number of them. He has not, however, been called on to treat a woman on whom vaginal hysterectomy was performed by another surgeon, nor have any of his patients required or sought treatment at the hands of other operators. His experience is in accordance with the observations of other writers and justifies the assertion that the results of vaginal hystero-salpingo-oöphorectomy in suppurative pelvic disease are excellent, notwithstanding the suprapelvic complications, and there is no class of cases which, as a whole, gives more satisfaction.

The author's first case of intestinal obstruction occurred in a series of forty-two vaginal hysterectomies, and was reported last year. Since then he has done nine vaginal hystero-salpingo-oöphorectomies for pelvic suppuration, and has had another case of ileus, the history of which he gave in detail.

Dr. J. Henry Carstens said that for septic tubal diseases the vaginal operation is, as a rule, the easiest and simplest. Provided there are no complications above the pelvis, the vaginal route is to be preferred to the abdominal.

Dr. Edward J. Ill, Newark, N. J., said there always will remain those cases with which surgeons must deal suprapubically. No one route should be adopted to the exclusion of the other. In some cases it takes very close discrimination to differentiate the route to adopt.

Dr. W. E. B. Davis said that the question hinges largely on whether the uterus shall be preserved or not. The French surgeons concede it is the best thing to remove the uterus, and if this be accepted in cases where the appendages are to be removed, then the vaginal operation has a much wider field; but if the uterus is to be preserved, tnen the abdominal route should be the rule, and the vaginal the exception. Unquestionably, in cases of puerperal abscesses, not gonorrheal, but where the abscess is peritubal, the vaginal route furnishes a great field for the proper treatment of such cases.

Dr. John M. Duff cited cases as an argument in favor of leaving the uterus. He also mentioned cases which called for its removal.

Dr. Willis G. MacDonald stated that there were a number of surgeons who were coming to the belief that not all of the good surgery that has ever been done on pus-tubes and collections of pus within the pelvis has been accomplished through abdominal incision. Many surgeons who are doing a fair amount of surgical work are becoming more and more convinced that they can do good surgery and effect cures through the vagina.

Dr. Blume, in closing, thought it was a serious matter for any surgeon to adhere to one route at the present time. The only way to reduce the mortality of the abdominal operation is to differentiate between the various forms and stages of the disease.

FIRST DAY—EVENING SESSION.

This session was devoted to the exhibition of pathologic specimens, of which the operators gave brief histories, and short discussions followed.

SECOND DAY—MORNING SESSION.

SHALL WE ABANDON VENTROFIXATION OF THE UTERUS?

Dr. Walter B. Dorsett, St. Louis, Mo., read a paper with this title. The question asked implies that some doubt exists as to the propriety of the operation of fixing or suspending the uterus to the abdominal wall. The object of the paper was not to discuss the different methods of corrections of displacements of the uterus, nor the results or accidents that are liable to and occasionally follow them; but to draw attention to one method which, on account of the unfortunate results that have now and then followed it, has been, to a certain extent, abandoned by some operators, viz., that of ventrofixation. By this, as practiced by himself, he does not mean ventrosuspension as originated and practiced by Kelly and others. His experience has not been followed by the results reported by others who have worked along the same lines; on the contrary, it has been highly satisfactory. Up to four weeks ago he had made thirty-eight ventrofixations, and up to this time has had no failures of keeping the uterus in its proper place: 4 have borne children without any of the usual troubles reported in pregnancy or during the delivery of the child, and none have had entanglements of the bowels or omentum. Of these 8 were done to correct different degrees of prolapsus, and the remainder were for retroflexions and retroversions; 15 of the latter were complicated with ruptures of the perineum and cervix, which were previously repaired by himself or others before the final operation was done; 16 were married women of the child-bearing age, and between the ages of 23 and 39 years; 12 were in cases of marked disease of the adnexæ, 5 of double pyosalpinx and abscess of one or both ovaries, and 2 of disease of one tube and one ovary; 6 were in marked neurasthenic women in whom there was a pronounced relaxed condition of the entire muscular system, predisposing the individual toward retrodeviation.

Dr. Dorsett then described at length the technic of the operation, his remarks being illustrated by blackboard sketches and diagrams.

VENTROFIXATION FOLLOWED BY DELIVERY AT TERM.

Dr. X. O. Werder, Pittsburg, Pa., reported five cases of firm ventrofixation followed by delivery at term. In two cases dystocia followed this operation done for complete prolapse of the uterus with inversion of the vagina. One case terminated spontaneously, the other required Cesarean section. The former case had been operated on by him, the latter by another surgeon. In both cases a series of operations was done at one sitting, including curettement, amputation of the cervix, anterior colporrhaphy, ventrofixation and perineorrhaphy. In his own case very firm fixation of the fundus and posterior wall of the uterus to the abdominal wall was made in order to be sure of relieving prolapse. In the other case infection is said to have been the cause of broad attachment and firm fixation.

He excludes from discussion other procedures intended to hold the uterus in anterior position and defines the limits of ventrofixation as follows; It is the operation of preference in cases of complete prolapse of the pelvic organs, and in cases in which a very large heavy uterus, due to chronic metritis, is habitually retroverted or retroflexed and causes pronounced symptoms. In these cases he thinks less rigid fixation is ineffective. The fixation should be between the anterior uterine wall, not the fundus or posterior wall, and lower angle of wound.

He attributes the serious after-results to errors in technic rather than to the procedure itself.

A SIMPLE, EFFECTIVE, AND ESTHETIC OPERATION FOR SHORTENING THE ROUND LIGAMENTS.

Dr. H. W. Longyear, Detroit, Mich., presented this paper, in which he described and commended an operation which he believes to be the best method which has been placed before the profession. The method was first brought to his attention by Dr. J. H. Kellogg, in 1897. Soon after this, appreciating the correctness of its theory, he attempted it himself, but did not succeed in finding the ligament according to Kellogg's directions, until he had seen him perform the operation. After the preparation of the patient, which should be first shaving the pubes, and otherwise in every particular as for an abdominal section, the operation in brief consists of the following steps:

"1. The incision: This is made about an inch in length, somewhat shorter in thin subjects, parallel with and just above Poupart's ligament, and with its outer end about half an inch inside of the internal ring. It should pass through skin, superficial fascia and fat, down to, but not including, the loose tissue which overlies the tendon of the external oblique. An incision of this length and situated as directed will be practically bloodless. If begun too far back, a branch of the superficial epigastric artery may be severed, and if too far forward, a branch of the superficial external pudic artery will be encountered, while if carried beyond the layer of fat, veins will be cut which will cause the field of operation to be more or less obscured. The location of the internal ring is determined by the pulsation of the femoral artery which passes just under it. (Dr. Kellogg locates it by measurement.)

"2. The separation of the wound transversely by the use of eye retractors mounted on long handles.

"3. Clearing away the loose tissue overlying the tendon of the external oblique by pulling it from side to side, longitudinally with the wound, with blunt hooks, and catching with the retractors each successive layer as it is raised up by the hooks. The blood-vessels in this tissue are thus pulled back and held out of the field of operation. With the retractors holding back the tissues a field of about one inch square in size is presented, with the smooth white glistening aponeurosis forming the tendon of the external oblique, at the bottom. Its oblique fibers can be usually easily traced to their junction with Poupart's ligament. By moving the retractors in various directions, being careful at the same time to keep the tissues within their grasp, a much wider field may be inspected, if necessary.

"4. Puncture, one-quarter of an inch in length, of the tendon of the external oblique, with the scalpel, at a point just above Poupart's ligament, and at the outer aspect of the cleared space.

"5. Insertion of the blunt hook, which should be passed downward close to the floor of the inguinal canal, then inward and upward, and the ligament with its surrounding investment of fat will be brought up out through the opening in the tendon.

"6. Isolation and pulling out of the ligament, which is facilitated by stripping back the adipose and cellular tissue with blunt-pointed forceps as it emerges through the opening and, if necessary, cutting with scissors any tendinous attachments which impede its freedom. Care should be observed during this maneuver not to cut the cuff-like prolongation of peritoneum which forms the canal of Nuck, and which is usually dragged from the internal ring, and makes its appearance as the ligament nears the uterus. If the ligament still comes out asily, its attachment can be carefully snipped with the scissors nd the cuff rolled back.

"7. Anchoring the ligament: This is done by Dr. Kellogg y means of silkworm gut sutures which are passed from the kin surface, and which also serve to close the wound, although e also uses superficial catgut sutures for the latter purpose. use one buried kangaroo tendon suture for fastening the igament; otherwise I follow the directions of Kellogg. The oop of ligament, which will be from two to four inches in ength, is held up by the assistant while its proximal portion, s it emerges through the opening in the tendon, is made fast o this structure by the suture, which is passed first through poneurosis, then the ligament, so as to grasp about two-thirds f it, and then the aponeurosis on the opposite side, and left ntied. An aneurysm needle is now passed in and out through he aponeurosis of the inner aspect of the wound, and through hese two openings the loop of ligament is drawn by means of heavy silk thread, turned backward upon itself and made ast to the aponeurosis and ligament by passing the loose uture through both sections and tying. The one strand of angaroo tendon is thus made to pass through the ligament hree times and fasten the bunch together to the aponeurosis, n which position nature will soon make permanent fixation.

"8. Closure of the wound: This I do with fine catgut, using he button-hole stitch, after which the wound is sealed with odoform collodion, reinforced with a layer of gauze, which is saturated with the collodion, thus making a firm and impervious seal. Before using the collodion, the surface of the skin where it is to be applied should be bathed with sulphuric ether, which removes any oily material, and thus insures the firm dhesion of the seal. A thick pad of gauze and a T-bandage omplete the dressing. The seal is removed after the tenth day, and as it is stripped off, the catgut sutures, which by this time are absorbed beneath the surface, come away with it. The time required by this method of operating is very much less than by the Alexander method."

Previous to operation a suitable pessary should be fitted for holding the uterus in anteversion during the operation, and this should be left in position, with occasional inspection, for three months afterward.

During the last eight months, Dr. Longyear has performed the operation on fifteen patients, and the results up to date have convinced him that this operation has come to stay, as it has the points of merit designated in the title of the paper.

(To be continued.)

San Francisco County Medical Society.

September Meeting.

HOME TREATMENT OF CONSUMPTION.

Dr. Albert Abrams, in his paper on this topic, discussed the present attitude toward infectious diseases, and especially tuberculosis. He believes that the tendency to accept the bacillus tuberculosis as the one and only etiologic factor in the causation of consumption correct. The value which the lowered resisting power of the individual plays in the problem is not generally sufficiently recognized. The disease is not due to the toxins of the germ, but is a systemic affection. The bacillus tuberculosis may be considered as a mere accident. As a general statement, it can be truthfully said that those patients who have been improved by some antitoxin treatment could have been cured by a proper and thoroughly carried out hygienic one; and those who have been cured by the antitoxin treatment would have been cured in much less time by the simple hygienic method. The custom of looking on tuberculosis as an incurable infectious disease is, in his opinion, wrong. As autopsies show that 59 per cent. of the people who come to the post-mortem table have had tuberculosis, it may safely be considered as the most curable of all the chronic infectious diseases. The habits, surroundings and diet are the all-important features; and especially the habit of proper respiration. This is almost always neglected. Confinement is also an unwise measure, for these patients need and require fresh air all the time, and the fresh air that can be secured only by their being and living out of doors. Climate, he considers of little or no importance: pure air, plenty of it, sunshine and a moderate temperature are the essentials. The habits of the patient should be carefully supervised, to the most minute detail, and particularly the respiration: these patients generally have very poor respiration, and generally but little attention seems to be given to that question. They should be taught to take deep inspirations, and then to forcibly expel the air from the lungs. Later they should be taught to inhale deeply and hold the breath. Practice will teach them to do this for as long as two minutes at a time. The holding of the breath, in Dr. Abrams' opinion, is very valuable, for the air in the lungs, heated by the body, expands and thus forces the small air-spaces to distend. If the patient is examined with the fluorescent screen while breathing and exercising, it will be noticed that no exercise so fully dilates and distends the lungs as does deep respiration with forcible expiration.

The finding of bacilli in the sputum, so far from being the sign of an early stage of the disease, is a late sign, in his opinion. Consumption should be regarded as a systemic and not as a local disease; the lungs are but the stage for the exhibition of one factor in the equation. As an aid in the dilatation of the lungs and the air cavities, the pneumatic cabinet is most excellent; 21 per cent. of all cases can be rapidly and satisfactorily benefited in the matter of respiration, by the use of it. He also thinks that the ultra-violet rays of the solar spectrum have a great penetrative power and may enter the tissues and prove dangerous to the life and increase of the tubercle bacillus. Therefore, sunlight is essential to the proper treatment of these cases. He cited the reports of one of the Pennsylvania penitentiaries, in which, for fifty years, the death-rate from tuberculosis was 50 per cent.—this when the prisoners were confined to their cells with no exercise and but little sunlight, though the system of ventilation was good, and careful examinations of the air introduced and withdrawn from the cells showed it to be good and pure. Later, when the cell windows were enlarged, and when exercise was permitted and all invalids and ailing were given exercise in the sun for a time each day, the death-rate from tuberculosis, for ten years, dropped to less than one-half what it formerly had been.

The patients should be well fed, if anything overfed, though the stomach and the bowels need careful attention. At first the patient should be placed in bed, preferably in a tent in the open air, and treated on the rest cure principle; plenty of feeding and sufficient exercise by means of electricity and massage. After from four to six weeks of this treatment, and when the weight has increased, the patient should be allowed to get up, to have some variation in the diet, and to take a moderate amount of exercise, in the shape of walking, daily. No exercise to the point of fatigue should be permitted. Sanatoria are good, but only for the reason that they provide a place where the buildings, etc., are properly constructed, and all arrangements may be carefully and conveniently overlooked. A good trained nurse and good control of the patient at home will be found to be quite as efficacious and more satisfactory to the patient than isolation at a sanatorium. The possibility of infection at sanatoria is quite out of the question. The records and statistics of the German sanatoria, which have been carefully kept for many years, show that the death-rate is decreasing rather than increasing. He recommends the building of a tent in an open yard where there is plenty of air and sunshine. The floor should be boarded and the tent so built as to allow free circulation of air without draughts. A bed and other necessary furniture should be provided. A good trained nurse is essential. He has treated 18 patients in this manner during the past two years, with the following result: Of 10 in the first stage, 7 were cured and 3 improved; of 7 in the second stage, 2 were cured, 1 died, 1 slightly improved and 1 remained stationary; of 3 in the third stage, 1 cured, 1 died and 1 improved. The number of patients treated is too small to permit of drawing any extensive conclusions, except that it shows that a general beneficial result will follow when strictly hygienic measures are pursued and the patient given liberal quantities of fresh air and sunshine.

Dr. John C. Spencer highly commended the method of treatment advocated, for the reason that it promised such good results and would not necessitate the patient's leaving home and friends for a strange place. He believes the question of climate one to be considered when possible. The benefit and delight of sleeping out of doors, in a tent, can only be appreciated by one who has tried it.

Dr. Leo Newmark said that he had been impressed by the fact that in this age, when every effort seems to be directed toward the ardent search for specifics in the treatment of disease, and when so many specifics for tuberculosis have been advanced and advocated, not one of these had been mentioned in Dr. Abrams' paper. He wished to inquire whether Dr. Abrams thought them of so little value and importance that they could be quite ignored?

Dr. Philip King Brown said that the treatment as advocated was an excellent method to contrast with the treatment by specifics. Recently reports have been made by several men, some of whom have employed specifics, and others who have followed the open-air and hygienic plan; the simple hygienic method of treatment certainly showed a greater number of cured and improved patients than did the treatment by any specific yet advanced.

Dr. Abrams, in reply to Dr. Newmark, said that he had purposely omitted the mention of any specific as a remedial agent, for after trying them all he had quite come to the conclusion that they were practically useless, and that simply looking after the regimen with minute care was the only method of value.

LIGATURES AND SUTURES.

Dr. Z. Taylor Malaby read this paper, and presented the case of the absorbable vs. the permanent ligature, and read reports from many of the prominent surgeons of this country as to their opinions and preferences in the matter of ligatures and ligature material. Many cases were mentioned in which death could be traced to the presence of a permanent suture. Kelly reported three deaths in which this factor could be assigned as the direct cause. He also mentioned the case of a man who had been operated on seven times in order to locate and remove from the abdomen a nonabsorbable ligature which had produced a sinus. All efforts had been unsuccessful. Silk, silkworm gut, silver wire and catgut, as materials for sutures and ligatures, were all discussed at some length. Methods of sterilization were reviewed and their relative advantages mentioned. The possible value of making an antiseptic suture, as recently advocated by Senn and others, seems to promise well. Catgut prepared by the silver lactate method was exhibited and the method of preparation described. It is not difficult to prepare the gut by this method, and it seems to have some positive antiseptic properties, as it is possible that infection may be carried into the tissues with the suture, which in itself may be sterile.

BOTTINI PROSTATIC INCISOR.

Dr. John C. Spencer demonstrated this incisor and the Valentine urethroscope. He first referred to the old prostate incisor, or cautery knife, and then to the improved pattern which is now being more extensively used. The bladder and rectum should be evacuated; the bladder should be washed and then a 4 per cent. eucain solution introduced. It should not be forgotten to fill the bladder with boric acid solution immediately before commencing the operation. If this is not done there is danger of injuring the bladder. The finger in the rectum, on which the beak of the instrument touches, acts as a guide. A stream of water is sent through the side blades of the instrument, thus cooling it and removing the possibility of cauterizing too much tissue. Four cuts should be made. The operation is still *subjudice*, but it seems to offer fair promise of satisfactory results in a goodly number of cases. Willy Meyer, New York City, has had some experience with the improved instrument and finds it satisfactory. In regard to the Valentine urethroscope, the instrument is certainly convenient. It is a great improvement on the original type of urethroscope, the hot wire of the older type being replaced with an incandescent electric lamp, and the water-cooling device done away with. The light can be left in the urethra for some time, without any discomfort to the patient. It is provided with a sort of telescope by means of which the illuminated field is more readily seen. It is operated by four dry cells, and is thus made readily portable.

Dr. J. Henry Barbat considers it a mistake to fill the bladder with boric acid or any other solution; the bladder should be filled with air. If filled with any watery solution, the danger of producing steam from the hot knife coming in contact with the water is considerable; if air be used, this danger is entirely avoided.

Dr. F. Benny Carpenter referred to the difficulty of illuminating any of the cavities of the body, owing to the fact that most forms of illuminating apparatus provided for that purpose do not secure parallel rays of light, and hence the illumination is not good. He recently installed an apparatus in which the light was entirely outside of the cavity and was directed into the canal of the region to be examined, by means of a right-angled prism. In this way parallel rays of light may be obtained and the field more satisfactorily illuminated.

Dr. Spencer said that it could not be possible, in skilled hands, to form steam by contact of the solution with the hot knife.

SYRINGOMYELIA.

Dr. Leo Newmark exhibited the spinal cord of a woman who in life had presented a very interesting condition of this affection. Eight or nine years ago he had first seen the woman, and had then written up her case quite fully. She was much impressed with the literary fame thus acquired, and shortly before her death instructed her attending physician to inform Dr. Newmark and allow him to perform a post-mortem examination. This was done and the cord obtained.

The woman was 25 years old, and had lived in California since her second year. Six or seven years before seen, she had noticed a prickling sensation in the right deltoid, "like when the foot is asleep." This sensation gradually extended down the right arm to the wrist; it has never been present in the left side. Vigorous blows on the fleshy part of the arm gave relief. She was a seamstress and unmarried, and continued her occupation, the peculiar symptoms persisting for a year or two. While ironing she often sustained injuries to her hands which, while severe, caused her no pain. In this way her attention was directed to the loss of the sensation of heat. Her fingers became very sore, and some of the nails fell off. A large running sore formed in the palm of her left hand, through a physician allowing the constant current with which he was treating her to become too strong. This caused her no pain. The hands later began to waste, the right becoming affected before the left. Violent jerking of the left lower limb, consisting of flexion of the thigh and extension of the knee, has much annoyed her of late; this most frequently occurs during sleep. The tactile, muscular and stereognostic senses are preserved in all parts. Very strong induced currents, applied with a small electrode, gave no pain, when the muscles of the arms were thus tested. Analgesia is more pronounced in the left superior extremity than in the right. It is most profound on the left side of the head, neck and shoulder. Temperature sensations are more marked on the right than on the left side. Trophic changes are not pronounced except for the muscular atrophy. Vasomotor disturbances are not marked. The iris reflex is normal. The left conjunctival reflex is absent; the pharyngeal reflex is preserved; the knee-jerks are present and are much exaggerated on the two sides. Hearing, taste and smell are normal. The spinal column is not tender to pressure; there is no scoliosis.

Exhibition of iron caused the general health to improve, and the pain in the back of the neck disappeared. In the discussion of a case presented before the Neurological Society of New York, Dr. L. C. Gray, said: "The only way to make a diagnosis of syringomyelia is to make an autopsy." In this case, as in numerous others, the diagnosis made during life has been confirmed at autopsy. The process of gliosis in the present case was quite advanced and the cavity in the cord was extremely large.

Chicago Medical Society.

Sept. 27, 1899.

FIBROID OF THE UTERUS.

Dr. A. J. Ochsner reported a case of fibroid tumor of the uterus, and exhibited a specimen. The patient was 39 years of age, colored. Her previous health had been good. In attempting to make a digital examination, the vagina was found occluded. On making an abdominal section, dark-colored fluid was found in the peritoneal cavity. The omentum, ovaries and tubes were adherent, and a condition found not unlike that encountered in a patient suffering from ruptured tubal pregnancy with slight extravasation of blood. The fibroid tumor had given rise to hemorrhages from the vagina. The operation simply consisted in removing the specimen and opening the occlusion in the vagina, and performing a plastic operation.

ANKYLOSED PATELLA.

Dr. A. B. Hosmer narrated an interesting case of extirpation of ankylosed patella, in which function was restored to the quadriceps femoris. Three operations were done at different times. Operations have not been done very frequently with a view to restoring the function of the quadriceps femoris, simply because it is not often that the surgeon runs across a suitable case. The result in this case was quite satisfactory and much preferable to an ankylosed knee.

LARYNGEAL TUMOR.

Dr. O. T. Freer presented a case of this affection, in which he dwelt at length on points in the differential diagnosis.

ARTHRITIS OF THE SPINE.

Dr. Archibald Church reported a very interesting case of multiple arthritis of the spine. He stated that the subject of arthritis deformans in association with the joints of the spine had been considerably neglected, both in books on orthopedics and general surgery. He mentioned several cases reported and described by Bradford as spinal rheumatism. Another observer, a Russian, in 1893, had reported cases which he designated as spinal stiffness.

PROGRESSIVE MUSCULAR DYSTROPHY.

Dr. Bertram W. Sippy exhibited a case of progressive muscular dystrophy of the Erb type. The patient was a German, 31 years of age, a tailor by occupation, and single. When he was 16 years of age he noticed weakness in the right arm and difficulty in raising it. At the age of 18 a similar condition developed in the left arm, and at 20 or 22 the right arm and shoulder became extremely wasted. He dwelt on points in the differential diagnosis of the muscular dystrophies.

Dr. L. L. McArthur exhibited a patient on whom he had operated for acute fat necrosis.

Dr. F. C. Hotz showed a case of symblepharon which was relieved by plastic operations.

Dr. E. Fletcher Ingals followed with the report of an interesting case of aneurysm of the aorta.

Dr. Arthur Dean Bevan described, at considerable length, an operation for old dislocation of the elbow-joint.

Cincinnati Academy of Medicine.

Sept. 18, 1899.

EPITHELIOMA.

Dr. Albert Freiberg presented a patient from whom he had removed an epithelioma of the left ala nasi. After removal he had, moreover, a flap of skin from the cheek completely covering the raw surface. Union had taken place readily, so that at the time of presentation, but a small scar remained to mark the location of the former tumor.

REPORT OF TWO CASES OF INTESTINAL OBSTRUCTION.

Dr. Charles M. Paul presented this report:

One case was that of a man of 57, who had had right inguinal hernia since the Civil War, and which has never been reduced. During August last, he suddenly showed all symptoms of obstruction of the bowel. After forty-eight hours, consent was given for operation. A Littré hernia was found and, the gut being in an apparently healthy condition it was relieved of constriction at Gimbernat's ligament and returned to the abdomen. The symptoms promptly disappeared. In about forty-eight hours signs of obstruction again developed. Under Schleich's local anesthesia method the abdomen was opened above Poupart's ligament and the following condition found: the pinched portion of gut had sloughed beneath the peritoneum; in this weakened area gas and feces had accumulated and distended the peritoneum into a large bag the sides of which had adhered to portions of the gut above and below in such a manner as to "elbow" the intestine so much that slight inflammatory swelling was sufficient to again obstruct the lumen. The patient succumbed about five hours after the operation.

The second patient was a male of about 60 years, who gave a clear, definite history of a slowly progressing obstruction of the bowel, covering a period of at least fifteen years previous to the last attack. The attacks were accompanied by all the signs of obstruction, fecal vomiting being present in a large number of them. They had always been relieved by active catharsis, rest in bed, and liquid diet. For the reason that the attacks had always ended favorably, he refused any operative procedure in the last attack, and suffered for two weeks before giving his consent. During this time he had almost incessant fecal and ordinary vomiting, was unable to take food, and so rapidly declined. Distension was so great that, even under an anesthetic, nothing could be determined as to the location of the trouble. So a median incision was made and the lesion found at the head of the colon and involving the ileocecal valve. The valve was involved in annular form and so obstructed as to admit of only the point of a small probe. The posterior cecum and nearest glands were also involved. A Murphy-button lateral anastomosis was made between the small and large intestine, about two inches above the valve. The growth was left *in situ*, on account of the patient's condition and the impossibility of complete eradication. Exitus followed in about twelve hours.

Sept. 25, 1899.

CASE OF EXOPHTHALMOS.

Dr. S. C. Ayres presented a patient, who had received, some time previously, a severe blow on the forehead, toward the right side. Orbital cellulitis had supervened in the right eye, and when this had finally disappeared, the eye-ball was found in the condition here shown: the ball retracted and fixed almost completely, very slight motion being allowed in the several directions. The retraction of the ball gave the eye very much the appearance of an artificial eye, and to all intents this was almost a counterpart to a similar case described by de Schweinitz. The underlying pathologic condition was inflammation of the orbital tissue, possibly as a sequence of fracture of the orbital plate of the frontal, wasting of the orbital fat, new formed connective tissue, the cicatricial contraction of the same, and the involvement of the muscles to a greater or less extent by scar tissue, thus wholly or partially restricting their movements. Apparent paralysis—muscular—and retraction of the ball naturally followed. At the time of injury, slight subluxation of the lens had occurred. The eye was very amblyopic, the vision being 15/200. The Doctor presented the case both on account of its rarity, and because the patient represented so perfect a type of this affection. Photographs of his own as well as Dr. de Schweinitz's case were presented.

SYPHILIS VEGETANS.

Dr. Ed. Shields presented a patient almost cured, the eruption formerly involving the right ala nasi and the contiguous upper lip. The infection had occurred four years previously, and when the patient had first presented himself, small warty vegetations were seen.

ECTOPIC GESTATION.

Dr. Speidel reported a case of ectopic gestation in a woman 32 years of age, the mother of three children, the youngest 8 years old. Five years ago she had had intense pain in the right iliac region, and after a short illness had discharged a large quantity of foul-smelling pus per vaginam. Three years ago she had had a similar attack. The last, a few months ago, had been accompanied by the usual iliac pain. Uterine hemorrhage was also present. On examination a firm mass was found in the pelvis, behind the uterus, and somewhat to the right, pushing the uterus upward and in the opposite direction. The diagnosis of ectopic gestation was easily made in this case, from the history and attending signs, and the rupture was thought to be entirely intraligamentous. A blood count had helped greatly in diagnosing from abscess. The operation was made per vaginam, and was entirely successful. The fetus was shown.

Dr. Gustave Zinke, in discussing the case, had occasion to report a case of his own. A woman, 22 years of age, 2½ months pregnant, was frequently seized with severe pains in the right iliac region, which pains had always been followed by diarrhea, so that her attending physician was convinced that the pains were due to intestinal catarrh and treated his patient accordingly, but without much success. While the attending physician was on his vacation, he had been called in on account of one of the attacks, and on examining the woman, had found a tumor about the size of a goose-egg on the right side, and had advised removal. No diagnosis was made until the abdomen was opened, when a tubal pregnancy was found. Considerable adhesion had taken place between the mass and the omentum, and it was found necessary to tie off a large portion of the omentum before getting at the tumor. The latter was then easily removed, and without any interruption to the normal pregnancy. He considered the case unusual not only that an ectopic and a normal pregnancy had taken place in the same abdomen at the same time, but that also, as far as he was able to determine, the pelvic organs were normal.

SUPPURATIVE APPENDICITIS.

Dr. B. M. Ricketts reported a case of suppurative appendicitis with perforation, and in which, in removing the ruptured appendix, two fecal concretions had come into view.

CASES OF RENAL STONE.

Dr. Joseph Ransohoff reported two cases of renal stone, one from a woman 50 years of age, the other from a man of about 35. The latter was a blacksmith who, in the intervals between his attacks of renal colic, was able to pursue his usual occupation without discomfort. In both, the stones were found in the pelvis of the kidney, the latter patient also presenting a hydronephrosis of several ounces, a dendritic stone of 155 grains weight, oxalate of lime, a perfect specimen of a coral calculus, showing moulds of infundibula and calyces, the latter even showing cup-like depressions corresponding to the apices of the pyramids. In the latter case not only were there attacks of renal colic, but blood-corpuscles were present in the urine at times, on microscopic examination. In both, after removal, the pelvis of the kidney was sutured with catgut Lembert sutures, and the kidney itself stitched to the lumbar fascia.

Dr. Henry Bettman called attention to a stone weighing over an ounce, which he had presented over a year ago, removed from the kidney post-mortem. It was also dendritic, with mouldings of the kidney substance as in this case.

POPLITEAL ANEURYSM.

Dr. Albert Freiberg reported a case of aneurysm of the popliteal artery in a negro, in which there had been an unfortunate termination. The man was a furniture mover by occupation, but could give no history of trauma, nor could any evidences of syphilitic infection be obtained either by questioning or on physical examination. He had readily consented to operation, and it was determined to excise the sac. On cutting down over the sac it was found that part of the wall was formed by the surrounding tissues, which made dissection a matter of extreme difficulty, so that two hours were used before the aneurysm was entirely removed. The dilatation was found to involve the lower part of the popliteal artery and the beginning of the posterior tibial, and was fusiform in character. Ligation was done above and below, with removal of the sac. The patient stood the ether exceedingly well, notwithstanding the fact that he was suffering from an aortic insufficiency of so advanced a character that relative mitral incompetency with dilatation of the right heart had supervened. Double murmurs could be heard all over the chest—this lesion was confirmed post-mortem. The patient was put to bed and heat applied, and in thirty-six hours the limb had resumed its natural warmth. The wound itself was infected at the time of operation, and profuse suppuration rapidly took place. On the sixth day dry gangrene of the toes began, and increased that day and the next. The temperature was slightly elevated. Amputation was advised but refused at this time. On the evening of the eighth day, however, a violent hemorrhage came on without warning and the patient quickly became pulseless. Several quarts of normal salt solution were injected by the interne in charge, into the subcutaneous connective tissue, and the man revived somewhat. Amputation at the middle of the thigh was decided on and immediately done, and again the anesthetic was well taken. Death occurred in three hours. Examination of the limb showed a septic condition of the arteries as the cause of the secondary hemorrhage, while the ensuing arterial obstruction was the cause of the gangrene.

Dr. B. M. Ricketts called attention to four hundred cases of aneurysm of this artery, which he had collected some years ago and reported at an annual meeting of the American Medical Association, and in which there had been twenty-eight instances of gangrene.

Dr. Joseph Ransohoff said that in all probability there was no such thing as a perfectly aseptic wound, but that open wounds exposed but an ordinary length of time were infected to such a slight extent that the leucocytes were able to dispose of all the organisms. But in wounds exposed to the length of time of the one reported, it could hardly be expected otherwise than that infection should occur. Undoubtedly the cause of the secondary hemorrhage was the septic infection. He did not know whether the accompanying vein was wounded in this case, but even if so it would not greatly affect the result, because many cases had been reported in which ligature of both the artery and vein had been performed, with perfect recovery.

Dr. N. P. Dandridge reported a case of aneurysm of the popliteal artery due to trauma. He also spoke of a traumatic aneurysm of the superficial femoral, in which he had opened the abdomen and ligated the external iliac, ligating the femoral below the tumor and turning out the sac by dissection and curretting. Recovery followed.

Dr. Albert Freiberg said that he did not believe that the accompanying vein was injured in his case, for two reasons: 1, the circulation had promptly returned after operation; 2, the gangrene was dry in character, whereas had both artery and vein been obstructed by septic clots, moist gangrene would have undoubtedly taken place.

Topeka Academy of Medicine and Surgery.

September 11, 1899.

GONORRHEA.

Dr. R. E. McVey read a paper on this subject, limiting his discussion to acute gonorrhea. He said: Gonorrhea is an acute infectious form of urethritis. There is more or less difficulty in cultivating the gonococcus on account of the media usually being alkaline. There is a pseudo-gonococcus which stains the same as the gonococcus of Neisser. For the first four days after acquiring the disease the gonococci are free on the surface of the mucous membrane, then at the end of that period they imbed themselves in the membrane, and then the symptoms become more marked. At first there is the slight tingling or uneasy sensation at the meatus urinarius with a slight sticky secretion, which gradually increases until it is abundant and purulent. The second stage lasts about two weeks, and four weeks is the average duration of the last stage, when the discharge stops or passes into the chronic stage.

Treatment.—If seen early the attack can frequently be aborted by the hot alkaline treatment. But not one out of twenty cases is seen largely enough for this abortive treatment to be of any value. Among other remedies are silver nitrate, permanganate of potassium and bichlorid of mercury. The active life of the germ is from six weeks to three months. Potassium bromid in water at bedtime is an excellent treatment for chordee.

Dr. J. E. Minney reported several cases of gonorrheal ophthalmia and recommended the use of solutions of silver nitrate, 5 gr. to 1℥. at 8 a.m., 4 p.m. and midnight. He thinks 15 and 20 grains to the ounce too strong for the eye. He uses a 1/500 bichlorid solution to touch the corneal ulcers.

Dr. H. L. Alkire said that gonorrheal ophthalmia is one of the most unfortunate diseases a physician is called on to treat. Hygienic treatment in gonorrhea is of the utmost importance. The patient should be as nearly isolated as possible, for the public good. Always use the short-nozzle syringe, and in passing sounds always remember that the prostate portion of the urethra is the small part, and do not try to force a large 30 sound clear into the bladder.

RELATION OF PHYSICIAN AND DRUGGIST.

Dr. W. S. Lindsay presented a paper on this subject, and said that the physician should not dispense his own medicine. If the druggist does it he can see that you have made no mistakes, and also there will be a record kept for future need if necessary. This brought out quite a discussion, and several related their experiences showing this method anything but profitable, except to the druggists. It was the general opinion that the physicians should protect themselves by dispensing their own drugs.

Professor Krehl of Jena goes to Marburg as the successor of Prof. F. Mueller, in the chair of internal medicine.

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SATURDAY, OCTOBER 7, 1899.

INFARCTION OF THE HEART.

The importance of the coronary arteries for the nourishment of the heart is well known. The closure of one of the coronary arteries, by thrombosis or otherwise, is frequently the cause of sudden death. If death does not occur, necrosis of the part nourished by the occluded vessel takes place, followed by the development of a scar, and if this be extensive, aneurysm of the heart may form.

There are exceptions to this general statement with regard to the effects of occlusion of the coronary arteries. Many cases are reported which show that the main trunk of one of two coronary arteries may become plugged without causing sudden death. Such cases have been reported by Percy Kidd, Chiari and others. In these and similar cases it is presumed that the disastrous consequences usually observed failed to take place on account of anastomoses.

Anatomic investigations, especially studies of injected specimens, have demonstrated that anastomoses may exist between the main trunks of these arteries. It is generally believed, however, that no anastomoses occur between the branches of the coronaries after they have entered the myocardium, the intramuscular branches being anatomically terminal arteries. Anatomic injections, however, only prove that the arteries communicate with each other. Anatomic communication, indeed, does not necessarily mean that one vessel can perform the function of the other in case of occlusion. The idea of terminal arteries is, after all, physiologic rather than anatomic.

With these considerations in view, and in order to study the physiologic distribution of the coronary arteries, Baumgarten[1] undertook to investigate the course and the amount of territory nourished by the coronary arteries, by producing artificial cardiac infarcts in cats and dogs. In this way it was hoped that considerable light would be thrown on some of the problems in connection with the nourishment of the heart muscle. Various branches of the coronary arteries of cats and dogs were ligated, under strictly aseptic conditions. It is not necessary at this time to give any account of the technic of this difficult operation, which was quite successful, in so far as many of the animals lived for several days and even weeks.

It was found that the physiologic distribution of the coronary arteries obtained by the method of infarction corresponds in the main with the distribution outlined by anatomic methods. It further demonstrated that two arterial branches may supply portions of the same area and still be independent of each other, examples of this sort occurring quite frequently, in this series of experiments in the territory supplied by the circumflex and the right coronary artery in the posterior wall of the heart, and between both these vessels and the artery of the septum in the posterior third of the latter. When smaller branches are occluded, it was also found that the area of necrosis is not always homogeneous, but consists of small foci separated by normal areas.

Baumgarten also studied the condition of the contractility of the anemic area. As shown by Porter, parts of the mammalian ventricle will begin to contract again when fed with defibrinated blood. After ligating a coronary artery and waiting until infarction has begun, the ischemic area was cut out and fed with defibrinated blood through an arterial branch. In this way it was learned that an ischemic area retains its contractility for at least eleven hours; just how much longer contractility may persist was not determined. In order to explain the contraction of the anemic area, Baumgarten suggests that the energy is derived direct from material present in the muscle when the artery is ligated, or that this material is afterward supplied by a feeble circulation from the surrounding portion, such as might come from the vessels of Thebesius or from the coronary veins. These vessels are without valves.

Porter has shown that each muscular contraction compresses the intramuscular vessels. In infarction the anemic area contracts for a time; this compression will empty the vessels in the area, so that at the beginning of diastole the empty vessels in which there is no blood-pressure might be readily filled from the superficial coronary veins and the vessels of Thebesius. Perhaps these auxiliary sources, even if they do not succeed in preventing coagulation necrosis, might be of great value in instances in which the arterial closure is gradually established, as must often be the case in the human heart.

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[1] Am. Jour. of Physiology, 1899, ii, p. 243.

The gross changes in the hearts showed that the infarcted areas are white or whitish-yellow, opaque, and flaccid. In a few cases the infarct was hemorrhagic. In all cases the part of the heart wall involved was more or less dilated. In two or more weeks the infarcts became white, began to contract, on account of the development of connective tissue, and in some of these cases polypoid thickenings of the pericardium were noted. In the oldest case, seven months, the infarcted area was found to be slightly reduced in size; it had been changed into very firm connective tissue, into which the muscle was inserted as if into a tendon.

Histologically it was found that necrosis developed fully throughout the whole area rendered anemic as early as twenty-two hours after ligation of the artery. The margins of the infarct were often irregular, interrupted by normal tissue, corresponding in this respect to the anatomic appearance generally presented by infarcts in human hearts. As is well known, myocardial infarcts are not as a rule wedge-shaped, but often irregular, and it even appears as if many infarcts may result from the occlusion of a single branch.

In experimental infarction the larger part of the capillaries and small vessels were found to be empty, except at the margins; as already noted, hemorrhages occasionally occurred throughout the infarct. In this respect again the conditions correspond with those in the human heart, in which both anemic and hemorrhagic infarcts are observed, the anemic, however, being much more common. In the experimental cases it was found that the connective tissue in the infarcted area remains unchanged much longer than the muscle tissue. As soon as the outskirts of the infarct are infiltrated with leucocytes, proliferation of connective tissue occurs, within the margin as well as just outside the infarct, followed by penetration of leucocytes and embryonal cells into the infarct and absorption of the necrotic material, ultimately leading to complete substitution with connective tissue.

In two cases sudden death from cardiac failure occurred in animals which had survived the operation for more than twenty-four hours, each time following violent exertion. In one case it concerned a cat, which died while quarreling with another cat. The other case occurred in a dog, which died suddenly after he had been fed and had been jumping about. In the animals which survived ligation of a large coronary branch from thirty-six to fifty-four hours, the pulse seemed normal and the heart sounds clear and distinct. No murmurs were detected, and no undue valvular quality was noted in the first sound.

In 1894 Porter experimentally showed that when arrest of the heart occurs after occlusion of the coronary arteries, there is falling of the arterial pressure and increase in the diastolic pressure of the ventricles. This increased pressure within the heart would undoubtedly check the flow of blood in the coronary veins, and thus interfere with the circulation throughout the entire heart.

It seems to us that these experimental studies are very interesting, because they show more in detail what must happen in occlusion of the coronary arteries in the human heart. From the experience of pathologists cardiac infarction seems to be much more frequent than is indicated by the small amount of attention given the subject in text-books of clinical medicine. Yet it is a process of much interest, not only anatomically but also clinically. While cardiac infarction may be caused by embolism, it is caused much more frequently by thrombosis, and thrombosis again is usually secondary to sclerotic changes in the coronaries or in the aorta near the coronary openings.

HEMOCHROMATOSIS AND BRONZED DIABETES.

While the physiology of pigmentation is but little understood, pathologic pigmentation is involved in even greater obscurity. In 1889 von Recklinghausen described a condition of pigmentation affecting various organs, the more important features of which are: 1. The presence in the cells of various glands, especially the liver and the pancreas, of an iron-containing pigment. 2. The presence of an iron-free pigment in the smooth muscle cells of the gastro-intestinal tract and of the blood- and lymph-vessels and in certain connective-tissue cells. 3. The association of cirrhosis of the liver with the pigmentation.

Before v. Recklinghausen's publication, other writers, especially French, had studied examples of wide-spread pigmentation, notably in connection with diabetes mellitus. There was established a new form of cirrhosis of the liver, pigmentary cirrhosis, and a new clinical condition, bronzed diabetes—"diabète bronzé." The cases of bronzed diabetes—according to Anschütz[1] there are now twenty-four recorded—present the picture of a rapidly fatal diabetes mellitus associated with cirrhosis of the liver, and in the majority of the cases, with bronzing of the skin. Post-mortem, the most striking findings are cirrhosis of the liver, interstitial pancreatitis and the presence of an ochre-colored pigment, especially in these organs, but also elsewhere.

The pathogenesis of the conditions above alluded to has been subject to much speculation. Hanot and other French writers have regarded the diabetes mellitus as the primary etiologic factor in the production of the pigmentation and other changes. Another group of writers regard the pigmentation as the result of some alteration in the blood, of unknown cause, and as the pigment is deposited in the various organs parenchymatous degeneration and consecutive interstitial changes are produced. When the chronic change in the pancreas has advanced far enough, diabetes results from the interference with the functions of the pancreas. Manifestly the problems involved in these processes are deep, difficult and complicated. Eugene L. Opie, in a recent

[1] Deutsche Arch. f. Klin. Med., 1892, lxii, p. 411.

tudy[2] of hemochromatosis and bronzed diabetes, based n the investigation of a case of hemochromatosis, cirhosis of the liver and interstitial pancreatitis but withut diabetes, reaches the conclusion that hemachromaosis is a distinct morbid entity; as pigment accumulates n the cells these degenerate and die and this is succeeded y interstitial changes in the organs most affected, amely, the liver and the pancreas; when the chronic nterstitial pancreatitis has reached a certain grade of ntensity, diabetes ensues as a terminal event in the disase. As the matter now stands, this seems to be the nost satisfactory standpoint from which to start with he investigations into the fundamental process in the ondition, namely, the manner in which the excess of pignent is produced. We do not know anything definite bout the obscure and complicated morbid processes vhich lead to the formation of the pigment in hemahromatosis. If it were only possible, the study of the hanges in the blood and the pigment depots in the early ourse of the disease might throw some light on the enesis of the pigment.

ENTERPRISING UNDERTAKERS.

The reported collusion of certain medical men in Great Britain, with undertakers, on the matter of fees, eemed like a ghastly joke gotten up to top off the other erennial antiquated witticisms against the profession. Anything like that had never been seriously charged in his country, but the suggestion from across the water ppears to have borne fruit in a circular which it is aid has been sent to the Chicago physicians by a "mortury company." This circular informs the doctors that t will be to their financial interest to promptly report o a local undertaking concern the deaths of adult paients they have been treating. Every physician reportng a death one hour from the time of its occurrence, vill, it promises, receive a fee, and it suggests a cipher ignature for communications, to secure secrecy. The ndertaking industry in Chicago has either been so much overdone, or deaths have become so scarce under the cientific care of the local profession, that competition as driven the undertakers to attempting to lead docors out of the narrow path of ethical righteousness. So ar as one can ascertain, this instance of business enterrise is not likely to be a success.

THE SUGGESTED CALIFORNIA QUARANTINE.

While individual physicians have expressed views faoring the proposed California quarantine against tuberculosis, the general expression of opinion of the medical ress has been, so far, that it would be inexpedient and ot in the line of true medical progress, besides being ractically inefficient. It is of interest to note the opinons of the lay press so far as they have come to us. It ppears from these that the average editor sees little possibility of an efficient quarantine, and some decidedly lisapprove of such measures. One paper, the *Salt Lake Tribune*, while approving the proposed measure, akes the opportunity for claiming that the real sanaoria for consumptives are to be found in the mountain plateaus of the great central region of the continent, "and there is no quarantine against the sick in all that space." The legal difficulties of the proposed quarantine are, in the opinion of the majority of editors, the most insuperable objections to its declaration, and it is pointed out that California had better confine herself to the police powers she possesses within her own limits before interfering with the national prerogatives of regulating interstate commerce and travel. Even then the question of individual liberty would arise, and the first habeas corpus case would very likely, as the *San Francisco Call* intimates, give a finishing touch to the regulations, that would prevent their doing much good—or harm—for an indefinite period.

MAGNETIC HEALERS.

We publish elsewhere in this issue in full a recent decision of the Appellate Court of the Third District of Illinois that seems to be important as defining the status of a certain class of irregular practitioners. It clears the air a little, though our courts are still befogged with "Christian Science" and Dowieism. It would not seem to be an unjustifiable extension of the principle, to call the anointing, etc., indulged in by some of these, also "manual treatment" and put them in the same category with the magnetic healers. In any case, the Illinois medical law should be amended and improved by striking out the exceptions made in favor of "purely mental or spiritual" means of cure. It is worthy of note in this connection that, according to newspaper reports, the health authorities in Chicago are inclined to attribute the present alarming increase of diphtheria, etc., at least in part, to the lack of precautions and notification by "Christian Science" and Dowie practitioners. These not only do nothing to cure but are so far above human considerations that they take no pains to report or isolate, or probably even to diagnose—assuming they are able to do this—any infectious diseases. It is becoming a serious sanitary question to which the only present reply is, "what are you going to do about it?"

MORTALITY STATISTICS OF THE COMING CENSUS.

The director of the census has sent out a circular to all persons connected with the registration of mortality statistics, proposing a uniform system of returns that can be utilized for the census tables and publications. The responses to this circular, by those to whom it is addressed, have been most gratifying and their co-operation practically secured, but an additional request is made that physicians, on whom more than on any one else the real success of the project depends, will interest themselves in securing on the new forms prompt and corrct returns. The questions included comprise the facts required in the law as passed by Congress, and their full and accurate answers are the chief essentials. The value of uniform statistics is obvious in itself, and in this case the necessity is imperative. The lack of anything of the kind in many parts of this country has been a serious drawback heretofore, and it is to be hoped that returns of the coming census will have, far more than those of any previous ones, a real scientific value. If it can be the beginning step toward a uniform national registration, the advantage will be, as the director says,

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Jour. of Exp. Med., 1899, iv, 279; JOURNAL, Sept. 30, ¶ 2, p. 850.

incalculable. The Journal wishes to endorse the director's request that the medical profession interest itself generally in making the returns complete, and trusts that no failure on its part will mar the full success of the project of a uniform plan of statistics.

ENFORCED VACCINATION.

Legal technicalities often stand in the way of enforcement of salutary regulations, and the courts apparently make the most of them when a possibility of invasion of the liberty of the citizen comes within their mental vision. This is praiseworthy enough when controlled by common sense, and even in health matters the intervention of the law in favor of individual rights as opposed to alleged sanitary necessity may sometimes be wholesome and necessary. Health authorities are not infallible or always judicious, even in their own specialty, and it may be that they sometimes need a check. When, however, it is pointed out that a general legal principle stands in the way of the most essential sanitary precautions, it is unfortunate, to say the least. We have already editorially noticed a decision of the Illinois Supreme Court that enforced vaccination was illegal, unless during the prevalence of smallpox, and now we have an opinion of the Minnesota Attorney-General to the same effect. Such decisions and opinions seem to the medical mind about as reasonable as one would be that prohibited the employment of a police force except during an epidemic of murder and robbery or the use of locks or safes until after burglaries had been committed. To the legal mind, however, they seem reasonable and necessary, and the only remedy would appear to be to include the needed prophylactic measures against smallpox within the sacred cordon of the law by early statutory enactment. We have for this the comforting assurance that in some states such statutes have been held valid.

MEDICAL ORGANIZATION.

An attempt is being made in England to organize a national medical guild, to be made up of delegates of all medical associations and societies. The objects, as outlined by the promoters, are medicopolitical rather than scientific; to discuss the business rather than the professional part of the physician's life. As the *Lancet* says, in commenting on the proposed organization, "It may be thought that the profession is resorting to the methods of those who devote themselves to trade. While this may be true, it is well to remember that physicians and surgeons have to depend on their professions for their daily bread, and looking at it from this view point there is certainly need for united action." What with the medicoreligious fads, 99 per cent. of which are money-making schemes; faith curists of all descriptions; advertising frauds of every conceivable form and grade of dishonest practice; charlatanry of every stripe in every part of the country, there is certainly need of an organization on the part of the medical profession. Aside from any commercial or professional reason, our duty to our patients justifies organized effort on the part of the medical profession for the purpose of eliminating these hordes which seem to be springing up more than ever and in various disguises. National organization for this purpose, however, is not needed in this country as much as state organization. The remedy for existing evils lies in enforcement of state laws and enactment of new ones if necessary. In the few instances in which the physicians of a state have thoroughly organized, satisfactory results have always been accomplished. A united profession in any state is a political power which is always respected, and its desires are generally granted.

MEDICAL POLITICAL CLUBS.

Some of the physicians of St. Louis, who are adherents of one of the great political parties, have united in a society, or rather a political medical club, with the avowed object "to secure such legislation as will best protect the interests of medicine and command for it proper recognition in every department of the local, state and federal government." Similar associations exist in some other states, and it is said that this new organization is to be modeled after these time-tried organizations. The Journal has always advocated the participation of physicians in public matters to a greater extent than is the prevailing tendency, and it may be that the organization along party lines will be one of the most effective measures for making their needed influence felt. The object of the organization, as stated, can certainly be heartily endorsed. The only question is, will an avowedly partisan organization restrict itself to these, and will there not be a temptation to utilize it for less worthy ones? A medical club organized to insure to its members or the adherents of its political party the public plums that politicians may award the profession, for example, to insure the partisan control of public charities, would be, under whatever flag it enrolls itself, a most reprehensible organization, and one that in the long run could not fail to degrade the profession and damage its best interests in every possible way. On the other hand, an organization of honorable physicians, aiming only to control the acts and influences of its party as regards its relation to the profession and in questions of medical importance can be of the greatest service, and possibly far more effective than a purely non-partisan organization. In medical politics, if we may use the term in this connection, the best interests of the profession as a whole and as the guardians of the public health should be the first and only consideration. Party connection, if used at all, should only be used for this end—a medical gang attached to a political one would be a sight to make angels weep.

TOLERANCE OF QUACKERY SHOULD END.

Under the above caption, the *Philadelphia Medical Journal* editorially discusses a most vital question, as follows:

> The question as to what to do about the awful craze of quackery with which the American people seem to be seized is one of the most serious things in our public life. Millions upon millions of dollars are spent each year to enable many thousands of young men to learn the science of medicine, a science linked with all the other sciences, and the outcome of centuries of patient effort to learn the mystery and cure of disease. A success in reducing the death-rate to a marvelous degree is the unquestioned result of this long and great intellectual, civilizing labor. In this result the entire people should be profoundly interested, because nothing comes home to each so closely as his health and that of his family and friends. The very infectiousness of disease should teach every citizen the imperative duty and necessity of communal action and of strengthening all the agencies that work to the

ngthening of life and making it healthy. Every death and se of illness is a most burdensome expense upon the com- unity. - And yet, in the face of the simplest common sense d the great instinct of self-preservation, we find the most andatory laws as to medical practice ignored, and the people most as a body rushing pell-mell into the worship of the ost shameless ignorance. Faith cure, christian science, os- opathy, and all the rest are building churches, dominating gislatures, and their adherents are everywhere swarming ith wild and alarming enthusiasms reckless of the baldest ctates of acquired experience and logic. It is a veritable blic calamity that must be grappled with or the progress medicine and sanitation will be turned into a harvest of eath and reaction most deplorable to contemplate. Already e needless deaths of hundreds of victims give the plainest arnings. It can no longer be a question of cynical tolerance iling its confidence that the delusions will wear themselves t. Science, knowledge, and civilization are in many respects ndamentally endangered. The voice of every sanitarian, of ery physician, of every medical society should be heard, and stematized action should be resolved to stay this rising flood ruin. Every medical organization should go to work in wnright earnest. The treatment of disease is legally the ork of qualified medical men. Those acting as physicians ithout the legal qualification, should be prosecuted by the ents of medical societies employed to see that this medical d public criminality is stopped. If the community will not t, then in its interest we must act. For a time and in part r efforts to advance our science should give place to a resolve at all professional progress shall not be drowned in this palling deluge of popular ignorance and delusion.

We heartily endorse every word of the above. "Every edical organization should go to work in downright arnest," should be echoed and re-echoed until every edical society in the country is aroused to realize its uty. The do-nothing policy should be ended, and an ctive, energetic one should take its place. Every lie hould be shown up, every false claim exposed, and very pretender punished, if the law will reach them; nd if not, *organized* effort should be made to get such w, or laws, as may be needed. As humanitarians, it is ust as much the duty of medical men to fight the shame- ss quackery and the mystical humbuggery of the day, s it is to fight other unsanitary conditions.

Medical News.

Dr. John M. Cruice has been elected a member of he Board of Managers of St. Joseph's Hospital, Phil- delphia, to succeed his father, recently deceased, also ecretary.

Prof. T. B. Wiggin of the College of Physicians and urgeons, Chicago, who resigned from the faculty last pring, has been reinstated and now holds the chair of linical diagnosis.

Dr. A. F. Lemke, Chicago, has been appointed ad- unct professor of medicine in the College of Physicians nd Surgeons, the Medical Department of the University f Illinois, Chicago.

At the department hospital, the Presidio, San Fran- isco, Cal., twenty-one cases of smallpox are at present quarantine. The infection was carried from the ast, about ten days ago.

Dr. A. B. Richardson, superintendent of the Mas- illon (Ohio) State Hospital, has been appointed super- ntendent of the Government Hospital for the Insane, Vashington, D. C., to fill the vacancy caused by the eath of Dr. W. W. Godding.

Drs. L. Webster Fox, Alfred Stengel, J. M. Tyson, . William White, J. C. Wilson, Ernest Laplace and ohn P. Arnold are among the Philadelphia physicians ho have recently returned from abroad.

A new hospital built by the Sisters of St. Francis of Silver Lake, Wis., was dedicated September 28, with accommodation for about 150 patients. The cost of the building is $50,000, and of the site, $7,000.

Medical Director J. R. Tryon, formerly surgeon-general of the navy and chief of the Bureau of Medicine and Surgery, has, on account of his advanced age, been placed on the retired list. He entered the navy in 1863.

Dr. J. W. Curtis, Chicago, is to go to the Philippines as contract surgeon of the U. S. A. Dr. Curtis was assistant in the Eighth Illinois Volunteers at Santiago, and has also been a special examiner of the Pension Bureau.

Recently, at Hamilton, Ont., a woman expired under chloroform, in a dentist's chair, after ten teeth had been extracted. This is the second death within a very short space of time that has occurred in the same office, under similar conditions.

The Vienna courts recently imposed a fine of ten gulden on Dr. A. Pohl for his exclamation "Frecher Mensch!"—about equivalent to "rude creature!"—when a newcomer broke into the line of ticket buyers at the opera house. The newcomer happened to be a prominent official.

Dr. Alfred Engelbert Taylor, who for several years has been connected with the Pepper Laboratory of Clinical Medicine in Philadelphia, and who has in addition been recorder of the Philadelphia Pathological Society, has been appointed professor of pathology in the University of California.

The five persons living near Thamesford, Ont., who were bitten by a dog supposed to be suffering from rabies (see Journal September 2) have returned to their home from the Pasteur Institute, New York City, perfectly well, none of them at any time having manifested any of the symptoms of hydrophobia.

Several months ago the city council of Philadelphia set aside $37,000 for the purpose of providing filters for the public schools of that city, but as the experts have not agreed on any one as the most useful, they have not been provided, and it may not now be necessary, since filtration of the entire water-supply seems a near possibility.

It is announced that Mrs. Amelia F. Melish, an inmate of the Methodist Home for the Aged of Philadelphia, died in that institution a few days ago, having refused medical attention on account of her belief in faith cure. Death resulted from nephritis and general debility. Several more of the inmates refuse the attendance of physicians.

Only two members of the profession were on the witness-stand at Rennes: Dr. Peyrot and Dr. Weill, the latter a Jew; but a large number were interested spectators. Professor Possi considers Dreyfus utterly worn out, physically, and that he can not survive more than a year or so. The *Gaz. Med. de Paris* mentions a rumor that he has consumption.

Louis Emanuel of Pittsburg, Pa., president of the State Pharmaceutical Examining Board, has been quoted as saying that at the present time there are many druggists in the state who have not complied with the law requiring every druggist to employ at least one assistant who has obtained a certificate issued by the Board. In Washington it is said that but four drug stores comply with all the requirements, while several comply with none.

There is much sickness prevailing among the Doukhobors in the Northwest at the present time. Their medical adviser, Dr. Vera Welistchkina, is described as a tiny, slender, dark-eyed woman, who, after having taken her degree of M.D. in Switzerland, followed these people to their adopted homes. Besides being a physician, she acts as nurse and interpreter and guide to many hundred souls. At present writing she must more than have her hands full.

Dr. Jane R. Baker has been chosen general superintendent and medical director of the Chester County (Pa.) Insane Asylum, which will be completed December 1.

The St. Louis *Republic* makes the statement that Dr. Nicholas Senn's "writings bring him yearly more money than William McKinley draws as President of the United States." The *Republic* does not state how its information was obtained.

The medical colleges of Baltimore have decided that unless the city appropriates money for the maintenance of the dispensaries connected with them, these dispensaries will be closed. Prior to 1898 the city gave about $1000 annually to these institutions, the state giving double. For the current year the city has made no appropriation, the dispensaries having been kept open by the colleges. The latter will treat state patients in their hospitals as heretofore.

A young French physician is professor of anatomy at the Medical College at Pekin, but he found it impossible to obtain sufficient cadavers for demonstration, as owing to the pious reverence for the dead, no corpses are at the disposal of the faculty except those of executed criminals. He recently complained to Li Hung Chang, as the Vienna *Freie Presse* relates. "But you get all the executed criminals," the latter rejoined. "Yes, but they are far too few for what we need." "That is easily remedied. We will have more criminals executed."

Our exchanges comment on the number of physicians who are prominent journalists in Europe, as exemplified at the Dreyfus trial. The *Gaz. Med. de Paris* mentions the following as correspondents at Rennes: Dr. Pennink, for the *Nieuwe Rotterdamsche;* Dr. Kroeger, for the *Kolnische Ltg.;* Dr. Max Nordau, for the *Vossische Ltg.;* Dr. Handl, for the Vienna *Freie Presse;* Dr. Dilla, for the *Daily Telegraph;* Dr. Israels, for the Amsterdam *Handelsblad;* Dr. Goldmann and others. Nine million words were transmitted by the telegraph in these various languages and French.

At a recent meeting of the managers of the Germantown (Pa.) Almshouse, a bill was received from the Director of the Poor of Westmoreland County, Pa., amounting to $430.62 for medical aid, nurse hire, quarantine guards, and groceries for one Williams of Germantown, who was kept in the Westmoreland County Almshouse from July 21 to August 5, suffering from smallpox. It was stated that the two nurses demanded $2.50 per day, and the physician in attendance $15 per day for sixteen days, both of which were considered exorbitant by the Westmoreland County authorities. The Germantown officials have agreed to compromise on a settlement of not less than 25 per cent. of the face value of the bill, such being considered exorbitant.

The committee on Dispensaries of the State Board of Charities, New York, gave a public hearing September 28, for the discussion of a proposed means of regulation for the management of dispensaries in all the larger cities of the state. The amendment to the law in regard to dispensaries, placing these institutions under the direct supervision of the State Board of Charities, went into effect October 1. The object of the discussion was to bring out criticisms and comments with a view of rendering the regulations as satisfactory as possible. One rule, which caused special expression of opinion, provided that there should be a minority representation of women on the managing board of dispensaries incorporated on an independent basis. Another required that all applicants for treatment sign a sworn statement of their inability to pay, and provided for an investigation of all suspicious cases.

The twenty-fifth annual meeting of the Mississippi Valley Medical Association was held in Chicago, October 3-6, 417 members having registered at the hour of going to press. Judge Francis Kavanaugh delivered the address of welcome in the name of the city and state, while Dr. Frank Billings welcomed the association on behalf of the local profession. The association records show 170 new members added during the year just passed. But two deaths were chronicled. The address in medicine was delivered by Dr. J. A. Witherspoon of Nashville, Tenn., that in surgery by Dr. Lewis S. McMurtry of Louisville. The secretary of the surgical section established a new precedent, one worthy of being followed—that of having each author, when he had finished reading his paper, hand it over to the secretary, in order to facilitate its publication in book form. The following officers were elected for the ensuing year: President, Harold N. Moyer, Chicago; first vice-president, A. H. Cordier, Kansas City, Mo.; second vice-president, S. P. Collins, Hot Springs, Ark. Henry E. Tuley, Louisville, Ky., and Dudley S. Reynolds, of the same city, were re-elected to the positions of secretary and treasurer, respectively. Asheville, N. C., was selected as the place of meeting of the Association in 1900. An abstract of the proceedings will be published in the Journal next week.

Medical Colleges.—A catalogue of the University of Pennsylvania has been issued in the Spanish language. The winter session of the Keokuk Medical College, Keokuk, Iowa, opened September 27.—The opening exercises of Rush Medical College, Chicago, were held the evening of October 4, Prof. J. Clarence Webster delivering the address of the evening.—The Women's Medical College, Chicago, opened October 2.—The Baltimore Medical College opened September 28, with an address by Prof. Charles G. Hill.

Sanitary Condition of Cuba.—Dr. C. L. Furbush of Philadelphia, who has for some time been engaged in the work of reconstruction of sanitary matters in Cuba, under the direction of General Wood, has returned to his home but will in a few days sail for the Philippines to undertake similar work in those islands. Regarding the improvements that have taken place in Cuba, Dr. Furbush believes that great results have already occurred when it is taken into account that the conditions were formerly in a deplorable state. His special work was in the Department of Charities and Hospitals. In the hospitals, he is quoted as saying that such things as diet-kitchens and shower-baths are unknown. In a hospital with 300 patients only one bathtub was found. Ambulance service was a new innovation. Already a school for nurses has been instituted. Regarding the care of lepers, these were allowed to frequently go away on ten days' leave of absence. In his belief the Cubans are an appreciative people and in time he believes splendid results will be obtained.

Correspondence.

"Sanarelli's Autobiography."

Coylesville, N. J., Sept. 26, 1899

To the Editor:—Please send me a copy of the Journal of September 9, in which you editorially criticise a fulsome, ostensibly autobiographic, notice of Professor Sanarelli, recently appearing in the *N. Y. Herald*. I am a personal friend of Professor Sanarelli, in constant correspondence with him, and I can assure you that he had nothing to do with the said notice, which was made up from fragmentary information by an Italian lawyer and a physician whose name I do not now remember. I can assure you that when Sanarelli learns of the publicaation, he will be much displeased at this piece of graphomaniac impudence of the legal gentleman, who, I may add, demanded in an Italian paper the greater part of the credit of producing that "autobiography."

You will see my name in the last number (September 23) of the *Medical News*, which publishes one of my articles. Trusting that you will wish to publish this rectification, I remain, Yours respectfully, Felix Vitale.

[Dr. Vitale's article referred to, was noticed in the Journal, September 30, ¶ 116, p. 854.—Ed.]

Canada.

(From Our Regular Correspondent.

Toronto, Sept. 30, 1899.

RESOLUTION RE DOMINION REGISTRATION.

The following is an exact copy of the Resolution unanimously adopted by the Canadian Medical Association at the recent meeting:

Whereas, The standards of education for the profession of medicine and surgery, and the qualifications for the practice of the profession, vary in each of the provinces of Canada, and the assimilation of these standards, and, if practicable, the establishment of uniform standards throughout the Dominion are desirable; and

Whereas, In consequence of the provisions of the Acts of the United Kingdom of Great Britain and Ireland, known as the "Medical Acts," medical and surgical practitioners, who are by the law of a Province of Canada entitled to practice the profession in such province, can not obtain the benefits of registration under the said Acts, inasmuch as by the said provisions, the qualifications required for such registration must be regulated by the Parliament of Canada; and

Whereas, Medical and surgical practitioners, duly registered according to the law of one province of Canada, can not legally practice in another province without being duly registered in such province; and

Whereas, Serious practical inconveniences both to the public and to medical and surgical practitioners have arisen from the above cause; and

Whereas, It is desirable to assimilate, and, if possible, to unify the various standards of qualification established by the several provinces of Canada as conditions of admission to the study of the profession and to the practice thereof, such assimilation and unification being first attained by the establishment of some central authority with power to hold examinations of, and to establish and maintain a system of medical registration of, such persons as desire to practice the profession in more than one province of Canada; and

Whereas, It is not within the legislative jurisdiction of the provinces of Canada to establish such central authority, the jurisdiction of such provinces being restricted to the limits of the province and to provincial objects only; and

Whereas, It is expedient to constitute a corporation in which the legislatures of the various provinces may, if they see fit so to do, vest such powers as are necessary to effect the above purposes, and the other purposes mentioned in this Act: and

Whereas, The appointment of such an authority is for the general benefit of Canada, and would promote the advancement of medicine and surgery throughout the Dominion of Canada: therefore be it

Resolved, That this Association heartily approves of the proposed scheme which the committee has formulated and presented at this meeting; and further

Resolved, That Dr. Roddick be empowered and requested to continue his efforts to have the scheme completed and carried into effect, by such legislation as may be found necessary.

SANITARY PROGRESS IN NOVA SCOTIA.

In the opinion of Dr. A. P. Reid, secretary of the Provincial Board of Health, Nova Scotia is away behind the times in this respect, the province being very poorly equipped should an epidemic appear. Health laws they have in abundance, good as far as they go, but as there is no proper and efficient means of putting these in force, they are, for all practical purposes, almost obsolete. Thirty years ago they had a statistical office for the registration of marriages, births, deaths, etc., but it has not been much used since 1867. The secretary contends for the immediate establishment of this on modern lines. The municipal councils now appoint health officers for each county; but the perfunctory manner in which their duties are performed contributes to the disadvantages of this system. Dr. Reid calls for the appointment of medical men to these positions, and that they receive proper renumeration for the service rendered. Their duty would be to advise the provincial health secretary every quarter, of the state of health of the respective municipalities under their charge; and also immediate notification of any epidemic that might appear from time to time in their midst. For the past two years, the Provincial Board of Health has tried to keep a record of the sanitary state of the province, but the desired result has not been attained, owing to the fact that there was a lack of definite regulations on the subject. About two years ago, the Board instituted a department of bacteriology, which has proved eminently servicable to the profession and the public. This gives to any one in the province facilities for the examination of phthisic sputum, so that they may be enabled to satisfy themselves as to the presence of this disease in the lungs. The fee of $1 is charged.

HUNTING CANCER STATISTICS.

Dr. Arthur C. Duffy of London, Eng., a member of the British Cancer Society, has recently been in Toronto for the purpose of interviewing leading physicians and the secretary of the Provincial Board of Health with regard to the prevalence of cancer in this city and province. He has stated that one of the purposes of the Society, of which he is the delegate, is to secure the creation of a Royal commission to investigate the disease. He has found that cancer is not so prevalent in Ontario as in other countries, the annual death-rate from it in this province being about 0.41 per 1000 of the population, which is about two-sevenths of the death-rate from consumption. He drew the attention of the secretary, Dr. Bryce, to his report in 1889, which states that cancer was then on the increase in Ontario; but since that time the increase was not so perceptible. Dr. Duffy gives it as his opinion that the disease is more prevalent in the well-to-do classes.

SEWERAGE QUESTION IN NEW BRUNSWICK.

Fredericton, N. B., is calling on its civic authorities to immediately propound a proper and effective sewerage system and to carry it to a successful and complete termination. The city is known to be an extended succession of cesspools, the soil is permeated with them, and if not attended to at once some day soon there will be a great awakening. There is a system of private sewers in the city, and the people are calling for the immediate closure of these and the establishment of a general sewerage systm.

THE PROTESTANT HOSPITAL AT THE CAPITAL

Mr. E. B. Eddy, Ottawa, who recently undertook to raise, by his own personal solicitations, a sufficient amount to wipe out the debt of this Hospital, has succeeded in accomplishing his task. Dr. A. F. Maybury, medical superintendent for the last two years, has retired to private practice, and it is stated that Dr. Graham of Toronto, formerly of Smith's Falls, will be his successor. The two house physicians for the current year are Drs. Whittier and Bowles, both of Ottawa.

ACTION AGAINST A HEALTH OFFICER.

Dr Charles Sheard. M. H. O., Toronto: the mayor of the city; the city itself; and the members of the local board of health have been defendants in a suit for damages brought against them by a Miss Cummings, on account of alleged carelessness and negligence of the authorities of the Isolation Hospital in not taking proper precautions to guard against the spread of contagion in that institution. While an inmate of the Isolation Hospital, with diphtheria, the young woman claims she contracted scarlet fever through the aforesaid negligence, and for this she claimed damages; but as the plaintiff was unable to prove that she had had scarlet fever, the case was dismissed.

Books and Pamphlets Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A.M., M.D., assistant obstetrician to the Hospital of the University of Pennsylvania; Fellow of the American Academy of Medicine. Containing the Pronunciation and Definition of over 26,000 of the Terms used in Medicine and Kindred Sciences, along with over 60 extensive tables. Second Edition. Revised. 16mo., flexible covers. Pp. 518. Price, $1.20, net. Philadelphia: W. B. Saunders, 1899.

Asthma. Recent Developments in Its Treatment. By Ernest Kingscote, M.B., C.M., L.R.C.S. Edin. Illustrated. Octavo. Cloth. Pp. 184. London: Henry J. Glaisher, 1899.

Brain in Relation to Mind. By J. Sanderson Christison, M.D. Octavo. Cloth. Pp. 136. Price, $1.25. Chicago: Published by the Author. 1899.

A Compend of the Practice of Medicine. By Daniel E. Hughes, M.D., chief resident physician, Philadelphia Hospital, etc. Sixth Physicians' Edition. Thoroughly Revised and Enlarged. Including a Section on Mental Diseases and a Very Complete Section on Skin Diseases. Octavo. Flexible Morocco. Pp. 626. Price, $2.25. Philadelphia: P. Blakiston's Son & Co. 1899.

Coakley on the Nose and Throat. The Diagnosis and Treatment of Diseases of the Nose, Throat, Naso-Pharynx and Trachea. For the use of Students and Practitioners. By Cornelius G. Coakley, M.D., professor of laryngology in the University and Bellevue Hospital Medical College, New York. In one handsome 12mo. volume of 536 pages with 92 engravings and 2 colored plates. Cloth, $2.75, net. Philadelphia and New York: Lea Brothers & Co. 1899.

A Compend of the Diseases of the Eye and Refraction. Including Treatment and Surgery. By George M. Gould, A.M., M.D., and Walter L. Pyle, A.M., M.D. Second Edition. Revised and Enlarged. One hundred and nine illustrations. 8vo. Cloth. Pp. 296. Price, 80c. Philadelphia: P. Blakiston's Son & Co. 1899.

Enlargement of the Prostate. Its Treatment and Radical Cure. By C. Mansell Moullin, M.D. Oxon., F.R.C.S. Second Edition. Octavo. Cloth. Pp. 212. Price, $1.75. London: H. K. Lewis; Philadelphia: P. Blakiston's Son & Co. 1899.

Kirke's Hand-Book of Physiology. Fifteenth American Edition. Revised by Warren Coleman, M.D., professor of physiology in the Woman's Medical College in New York, etc., and Charles L. Dana, A.M., M.D., professor of nervous and mental diseases in the New York Post-Graduate Medical School, etc. One volume, 856 pages, 8vo., profusely illustrated by 516 wood-engravings in black and colors, and by chromo-lithographic plate. Muslin, $3.00, net: leather, $3.75, net. New York: Wm. Wood & Co. 1899.

On the Wasting Diseases of Infants and Children. By Eustace Smith, M.D., Fellow of the Royal College of Physicians, etc. Sixth Edition. Octavo. Cloth. Pp. 377. Price, $2.00. Philadelphia: P. Blakiston's Son & Co. 1899.

Over 1000 Prescriptions or Favorite Formulæ of Various Teachers, Authors and Practicing Physicians. The whole being carefully indexed, and including most of the newer remedies. Cloth, 300 pages, postpaid $1.00. Detroit, Mich.: The Illustrated Medical Journal Co.

Progressive Medicine—Volume III. A quarterly digest of advances, Discoveries and improvements in the Medical and Surgical Sciences. Edited by Hobart Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo handsomely bound in cloth, 440 pages, 11 illustrations. Philadelphia and New York: Lea Brothers & Co.

The Rise and Development of the Liquefaction of Gases. By Willet L. Hardin, Ph.D. Octavo. Cloth op. 150. Price $1.50. New York: The Macmillan Company. 1899.

Schleif's Materia Medica and Therapeutics. A manual of Materia Medica, Therapeutics, Medical Pharmacy, Prescription Writing and Medical Latin. For the use of Students and Practitioners of Medicine. By William Schleif, Ph.G., M.D., instructor in pharmacy in the University of Pennsylvania. In one very handsome 12mo. volume of 352 pages. Cloth, $1.50, net. Philadelphia and New York: Lea Brothers & Co.

Surgical Nursing. A Compilation of the Lectures Upon Abdominal Surgery, Gynecology and General Surgical Conditions and Procedures, delivered to the classes in the Training School for Nurses connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, clinical professor of gynecology in the Woman's Medical College of Pennsylvania, etc. Third Edition. Revised and Enlarged, with 69 illustrations. Octavo. Cloth. Pp. 294. Price, $1.00. Philadelphia; P. Blakiston's Son & Co. 1899.

A Treatise on Surgery, by American Authors. Edited by Roswell Park, M.D., professor of surgery in the University of Buffalo, N. Y. New condensed edition in one royal octavo volume of 1262 pages with 625 engravings, and 37 full-page plates in colors and monochrome. Cloth, $6.00, net; leather, $7.00, net. Philadelphia and New York: Lea Brothers & Co. 1899.

Minor Surgery and Bandaging. By Henry R. Wharton, M.D., demonstrator of surgery in the University of Pennsylvania. New (4th) edition. In one 12mo. volume of 594 pages, with 502 engravings, many being photographic. Cloth, $3.00, net. Philadelphia and New York: Lea Brothers & Co. 1899.

PAMPHLETS RECEIVED.

Accidental Heart Murmurs. Geo. W. Webster, Chicago. Reprinted from the Journal.

Advice to Gonorrheal Patients. Ferd. C. Valentine, New York. Reprinted from Phila. Med. Jour.

Anesthesia: Nitrous Oxide; Ether; Chloroform. S. Ormon Golden, New York. Reprinted from N. Y. Medical Journal.

Anesthetizer as a Specialist. D. H. Galloway, Chicago. Reprinted from Phila. Med. Jour.

Angioneurotic Edema. H. F. Slifer, North Wales, Pa. Reprinted from Phila. Med. Jour.

Appendicitis. Chas. J. Whalen, Chicago. Reprinted from Phila. Med. Jour.

Cerebrospinal Meningitis. J. W. Porter, Midway, Kans. Reprinted from Trans. Kan. Med. Soc.

Ectopic Pregnancy. With Report of Fourteen Cases. A. McLaren, St. Paul, Minn. Reprinted from St Paul Med. Jour.

Empyema of Gall-Bladder. J. E. Summers, Jr., Omaha. Reprinted from Western Med. Rev.

Etiology of Movable Kidney. C. S. Bacon, Chicago. Reprinted from Am. Gyn. and Obst. Jour.

Eudoxine in Pediatric Practice. Gustavus M. Blech, Chicago. Reprinted from N. Y. Med. Jour.

Gastro-Enterostomy: Indications and Report of Cases. Byron B. Davis, Omaha. Reprinted from Western Med. Rev.

Gunshot Wounds: History of Cases. J. B. Mahon, Wilkesbarre, Pa. Reprinted from Trans. Luzerne Co. Med. Soc.

Hernia. A. McLaren, St. Paul, Minn. Reprinted from Northwestern Lancet.

How I Cure Tuberculosis. Edwin Klebs, Chicago. Reprinted from Jour. of Sci. Med.

Hypnotism. S. L. Jepson, Wheeling, W. Va. Reprinted from Trans. V. Va. State Med. Soc.

Importance of Blood Examinations in Reference to General Anestheti- ation and Operative Procedures. Hamilton Fish, Ouray, Col. Re- rinted from Annals of Surg.

Importance of Early Diagnosis in Locomotor Ataxia, as Affected by he Newer Pathology. Wm. Broaddus Pritchard. Reprinted from N. Y. Ied. Jour.

Involvement of the Eye and Ear in Cerebrospinal Meningitis. Wm. 'heatem, Louisville. Reprinted from Phila. Med. Jour.

Lateral Route for Removal of Cervical Growths. Edmund W. Holmes, 'hila. Reprinted from Internat. Clinics.

Modern Possibilities in Chronic Catarrhal Deafness. Sargent F. Snow, yracuse, N. Y. Reprinted from Laryngoscope.

Nephro-Ureterectomy for Traumatic Hemato-Hydro-Nephro-Ureterosis. ohn E. Summers, Jr., Omaha. Reprinted from Med. Rec.

New Arts in Practice. Wm. B. Doherty, Louisville. Reprinted from 'incinnati Lancet-Clinic.

Notes on Injuries of Head and Tubercular Pelvic Peritonitis. Chas. C. llison, Omaha. Reprinted from Trans. Western Surg. Soc.

One Hundred and Thirty-two Gall-Stones Removed without Operation. dward Speidel, Louisville. Reprinted from Am. Pract. and News.

Proper Dosage of Thialion. E. M. Smith, Newtown, Conn. Reprinted rom Jour. of Med. and Sci.

Rubber Gloves or Gauntlets; Their Use by Physicians and Surgeons. . E. Summers, Jr., Omaha. Reprinted from the Journal.

Report of Case of Tumor of Brain. Wm. Broaddus Pritchard and John . Wyeth, New York. Reprinted from N. Carolina Med. Jour.

Saw Palmetto. P. L. Sherman and C. H. Briggs. Reprinted from 'harm. Arch.

Some Observations, Mainly Clinical, on Uric Acid Diathesis. Isaac J. ones, Austin, Texas. Reprinted from Southern Practitioner.

Some Remarks of Chronic Bright's Disease. Arthur R. Elliott. Re- rinted from Med. Record.

State Care of Insane. Frank C. Hoyt, Mt. Pleasant, Iowa. Reprinted rom National Hosp. Record.

Modern Use of Synthetics. R. W. Wilcox, New York. Reprinted from Ied. Fortnightly.

Treatment of Pertussis. W. H. Donaldson, Fairfield, Conn. Reprinted rom Proc. Conn. Med. Soc.

Tumors of the Brain. U. O. B. Wingate, Milwaukee. Reprinted from nnals of Ophth.

Value of Expression in Cases of Moderate Contraction of the Pelvic nlet. C. S. Bacon, Chicago. Reprinted from Internat. Clinics.

What the Physicians and People of Colorado Need More than a Med- cal Bill. By P. D. Rothwell, Denver. Reprinted from Colo. Med. Jour.

Trade Pamphlets.

Citrophen. Roessler & Hasslacher Chem. Co., New York.
Respirozone. Tilden Co., New Lebanon, N. Y. and St. Louis.
Resinol. Resinol Chem. Co., Baltimore, Md.
Sanguiferrin. Sanguiferrin Phar. Co., St. Louis.
Tannalbin. Merck & Co., New York.
Thyroid Gland. Armour & Co., Chicago.

Deaths and Obituaris.

George W. Wayson, M.D., died in Baltimore, Md., Sep- ember 26, aged 79 years. He was graduated from Vashington University Medical School, Baltimore, in 1846, nd began practice in that city in 1851. In 1861 he raised he Third Maryland regiment for service in the Civil War, nd became Colonel, later serving at the battles of Gettysburg, Yorktown and Shiloh, as surgeon. He was a city councillor at ne time, and introduced the bill for the establishment of the irst public school for negro children.

John W. Nash, M.D., emeritus physician of the Eastern State Hospital, Williamsburg, Va., died there September 21. Dr. Nash succeeded Dr. Garlick as assistant physician at this ospital in 1893, continuing in that position until last April. He was 73 years old.

Israel Gilbert Young, M.D., died of heart disease, in Phila- lelphia, September 26. He was graduated from the University of Pennsylvania in 1862, and practiced in Camden County until 1866, when he removed to Philadelphia.

Francis A. Thomas, M.D., College of Physicians and Sur- geons, N. Y., 1853, died in New York City, where he had prac- iced for over forty years. His death occurred September 28, wo days after having been struck by a trolley car. He was vell-known in political, medical and social circles, having served as a councilman in the Seventh district in 1866, and as a surgeon to the municipal police from 1871 to 1877. His iterary talent and oratoric ability were much above mediocrity, while his wit constituted an element in his popularity. An exceedingly accurate memory also supplemented his culture and judgment as a clinician.

Henry C. Cunneely, M.D., Bellevue, N. Y., 1886, at one time a practitioner in New York City, died in Hackensack, N. J., September 30.

H. B. Barnes, M.D., Ionia, Mich., died suddenly September 29, aged 65 years....T. G. Hickman, M.D., Vandalia, Ill., September 22, at the age of 71....R. E. Oliver, M.D., Half-Way, Ky., September 27....W. H. Padon, M.D., Blackwell, Okla.

DEATHS ABROAD.

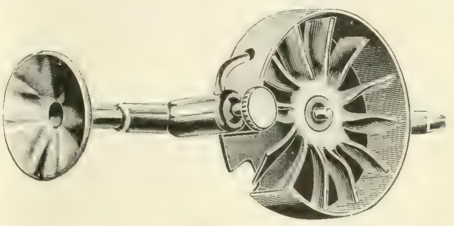
Jules Simon, Paris, "The leading authority on children's diseases of our epoch," although retired from active practice for some time, died recently....Professor Borysiekiewicz of Graz, is dead..... Dr. Gerhard Westfeldt, physician to King Oscar, died suddenly September 26, at Drottningholm, at the age of 71 years.

New Instrument.

THE INTRATYMPANIC MASSEUR.

BY W. H. WEAVER, M.D.
CHICAGO.

The various instruments hitherto brought out for the application of massage to the treatment of chronic catarrhal deafness are all intended for use through the external meatus. In an endeavor to apply massage to the Eustachian tube and tympanum, I found my thumb action on the cut-off much too slow, producing at most not over four interruptions per second. In order to produce more rapid action I have had constructed an instrument which may be called an "intratympanic masseur." This instrument produces a rapid vibratory massage of the tissues of the middle ear, which is probably transmitted in part to the labyrinth. The wonderfully curative effect of vibratory massage is recognized as having a scientific basis in physiology and pathology. It is composed essentially of a tube, fitting between the cut-off and the catheter, in which is placed a valve that cuts off the current once in each revolution. This valve is kept in motion by the impact of a small jet of air against a fan wheel attached to the stem of the valve. The whole being incased makes a neat and compact instrument which should never get out of order with ordinary usage.



As constructed, it is capable of making from four to twenty revolutions of air puffs per second, which, when the Eustachian catheter is properly placed, should strike the drum membrane with about the sound of a planer in a planing mill, or slower according to the adjustment. The massaging effect can easily be recognized by both the patient and the operator. It can be tolerated by the patient from two to ten times longer than ordinary Politzerization, producing a rather agreeable sensation, relieving soreness rather than producing it. Tinnitus aurium is rapidly relieved in all the cases in which it has been used, and the hearing power rapidly improved in comparison with the ordinary methods of treatment.

The instrument is intended for use with about 20 to 35 pounds of air pressure, depending somewhat on the ease with which the air passes through the Eustachian tube, and that largely on the expert handling of the Eustachian catheter.

92 State Street.

Miscellany.

Pelvic Diseases and Insanity: Correction.—On page 831 of the Journal for September 30, at the top of the left hand column, the word "intensity" was used for the word "insanity," in the paper by Dr. H. A. Tomlinson.

Tuberculosis and Prisons.—Büdingen urges that all criminals with curable tuberculosis, condemned to brief sentences, should be incarcerated in a sanatorium instead of a prison, thus avoiding adding to the already excessive tuberculosis rate in prisons. The sound body may restore the perverted normal sense to normal, he adds, among other arguments.

Future of Appendicular Subjects.—According to *Revue Mensuelle*, the history of 86 persons who had appendicitis six months to five years ago, shows that 5 of the 19 medically treated relapsed and required an operation later. Out of 47 operated on at the time of the attack, 28 had had no recurrence and are in excellent health. Thirty operated on after the subsidence of the attack are all in excellent health.

Obstetric Injuries of the Eye.—Cramer states, in the *Cbl. f. Gyn.*, July 8, that it is almost impossible to fracture the bones of the skull by direct pressure of the forceps, but that when the edge of the spoon is applied on a line formed by the squamous suture, the lateral fontanelle and the suture between the frontal and zygomatic bones, the arch of the orbit is easily fractured and the eye liable to be violently compressed. This compression of the orbit may also occur in natural delivery.

Action of Quinin on Malarial Parasites.—Le Monaco (*Sperimentale*, 1) has been studying the action of a 1/1500 solution of quinin on the parasites in the blood of a patient with quarternian fever, finding that they contracted and altered their shape; the pigment granules were seen in lively motion and the parasites abandoned the cells, although remaining near them. The effect of quinin is therefore to drive the parasite out of the corpuscle, and hence the best time to administer it is during the fever-free intervals, when mostly young parasites circulate in the blood.

Indications for Extirpation of a Septic Puerperal Uterus.—With a pulse of 100 a minute, ten c.c. of blood should be drawn to search for pathogenic microbes. In Prochownik's experience (*Monats. f. Geb. u. Gyn.*, June and July; Journal, August 26, p. 541) the streptococcus alone was encountered, and he found that every case in which it was found terminated fatally, while every case without it recovered, no matter how severe the symptoms had been. Extirpation is therefore urgent when the streptococcus is found in the blood, or even for a streptococcus focus in the uterus. It is justified with pyohemia and septic metritis. He cites five cases of septic affections of the uterus treated by removing the infected organ. Three recovered.

Elevated Pelvis Position.—Desfosses calls attention (in the *Revue de Gyn.*, for August) to the fact that the sloping position ascribed to Trendelenburg is to be found illustrated and recommended for herniotomies, in a work by Jean Scultet, a physician and surgeon at Ulm, 1595-1645. He adds that the practice of bestowing the name of an author on a process is liable to entail injustice to his predecessors, as science does not proceed by jumps, but its onward course is progressive and continuous; every progress proceeds from some other progress. The human mind can not create. In its knowledge are the seeds of all its productions. Jayle urges the adoption of an extreme sloping position for gynecologic examination, and also for seismotherapeutics or vibratory massage.

Blood Parasites of Rats.—Recent research in Berlin, according to *Ztft. f. Hyg.*, xxx, 2, has confirmed the statements that the trypanosoma is pathogenic for rats alone, and established the facts in respect to its growth, etc., and manner of infection, which is not through the alimentary canal but by contact, living with or being bitten by infected rats or artificial infection through the peritoneum. The parasites disappear from the blood of white rats in four to six weeks, and the rats are thereafter actively immune to infection, and their serum has a passively immunizing effect on other rats. In some cases the transmission of the infection was traced to fleas. It is interesting to note that this research on rats and fleas was the work of a woman, Lydia Rabinowitsch, and W. Kempner.

Ether Drinking.—To the evils of alcohol are now added the evils of ether drinking, which has spread alarmingly in eastern Prussia, where ether is sold in the saloons, like any liquor, four or five grams to the glass. In the town of Memel alone, it is stated, the amount thus sold last year was 8580 liters, and in reality twice this amount was consumed, the rest brought in by smugglers. The effect is said to be four times more powerful than any equal amount of alcohol, but its continued use produces intolerable suffering and incurable lesions of liver, kidneys and heart.—*Jour. de Med. de Paris*, September 3.

Damages for Loss of Use of Both Legs.—In the case of Fonda vs. The St. Paul City Railway Company, the supreme court of Minnesota affirms a judgment for $20,000 damages for personal injuries alleged to have been caused by the defendant's negligence, and resulting in the loss of a portion of both the plaintiff's legs. In doing this, the court takes into consideration the trial judge's statement that he did not think the damages were so excessive as to show that the jury was influenced by passion and prejudice, and that "it must not be forgotten that the plaintiff's injuries were very serious; that he lost the use of both legs, and is a cripple for life; that he never will be able to work or enjoy life as others do; that he was nearly a year in the hospital, and suffered much pain; that his mental suffering, by reason of his condition, must have been, and must always be, great."

Should Have Been Referred to Jury.—Methvin vs. Crumbley, is the title on appeal of an action brought by the latter named party, a physician, against a husband, for medical services to his wife. The defense was that the wife had voluntarily abandoned her husband without sufficient provocation, and that the services were rendered after notice by the husband to the physician not to render them. The evidence pro and con on the question of notice thus raised presenting, in view of the other evidence in the case, as the supreme court of Georgia says, a material issue of fact, which ought to have been passed on by the jury, under appropriate instructions from the bench, it holds that the trial court erred in not thus submitting this issue to them, and in summarily disposing of the case by directing a verdict for the physician, and, on this account, it reverses a judgment so entered in the physician's favor.

Important Ruling to Hospitals.—In the case of Alice Hanmore, who brought suit against the German Hospital, Philadelphia, for alleged mutilation—autopsy—of the body of her mother, who died in that institution, autopsy being held without the consent of the daughter, Judge Audenreid of the Court of Common Pleas recently delivered his opinion as follows: "The statement of claim filed by Mrs. Hanmore is another action brought against the employes of the hospital for damages in respect of the identical acts for which she has here endeavored to hold the hospital to account. The verdict directed by the trial judge might well be sustained on the grounds upon which we rested our judgment in that case. But for the present purposes it is unnecessary to do more than to point out that the German Hospital is a public charity, possessed of no funds save what has been contributed to it by the charitably disposed for the furtherance of its philanthropic purposes, and to divert its assets to compensate for the injuries inflicted or occasioned by the wrongful acts of its agents or servants would, in the language of the Supreme Court, "be against all law and equity."

Still a Work of Original Scientific Research.—In the recent Hemstead case, where it had to determine the classification for duty of a work entitled "A Text-Book on Diseases of the Ear and Adjacent Organs," the United States circuit court holds that the fact that a book of this kind should necessarily quote largely from the writings of others, and deal with the results of investigations made by others, not only does not deprive the book of its character as one of original scientific research. but may tend to characterize the author as one well qualified for the original work he has in hand. Nor does it think that because a book is imported in unbound sheets, it is not a book, and on that account not entitled to free entry when scientific books devoted to original research are so admitted. The collected sheets containing in orderly and connected fashion the record of the intellectual and literary work of the author, the court holds, is a book, unless for some particular and special purpose a narrower definition is prescribed by law.

Spontaneous Fractures During Epileptic Seizures.—R. Charon relates (*Ann. Med.-Psych.*, July and August) five observations of such fractures, two occurring in his presence. The fracture was located in the middle portion of the bone, slantng from above downward and from without inward, with pronounced edema or ecchymosis over the large flexor and abductor muscles, with no wound nor contusion indicating a fall or vioence. If besides these indications the subject was tied, or the articles of furniture immovable, the spontaneity of such a fracture can be affirmed. He adds that epileptics should not be tied and that the furniture should be light and easily displaced in order to prevent such accidents. In one case the subect was tied in a chair, with the trunk immovable, the knees pressing against the arm of the chair in the convulsion, the ight limb flexed at a right angle with the thigh, flexion and adduction impossible. The result was a sudden crack as the natural curve of the femur was exaggerated to the fracture point. The bones were normal in all but one case.

Adherences After Laparotomies.—Steffens has been makng a study of forty-five individuals on whom laparotomy had been performed (*Beitrage z. Klin. Chir.*, xxiii. 2) several imes, at Kümmell's clinic, thus allowing inspection of the onditions consecutive to previous operations. He found that n every case in which the operation had been followed by a ise in temperature attributable to the condition of the abdomen, adherences had formed, while not a trace of adherences was to be found in the cases without post-operative hyperhermia. The conclusion that the development of adherences s chiefly due to some slight peritoneal infection, not sufficient o cause a general peritonitis, yet determining a slight rise of he temperature, is evident. He also found lesions of the serosa nd the lack of peristaltic movement of the intestines, factors n the production of adherences. On this account Kümmell ries to obtain an evacuation of gases within twelve hours of he intervention, by means of an injection, or the insertion of canula when the intestines have been sutured.

Venereal Infection.—An important fact derived from the eading addresses at the Brussels prophylactic congress, is that he propagation of venereal diseases is chiefly due to young rostitutes, minors. In Fournier's 11,000 cases of syphilis in is private practice the large majority of men were infected etween the 20th and 26th year; average 23; the women beween 18 and 21; average 20. In Commenge's statistics, cited y Verchere, comprehending 11,465 women in lower walks of fe, with syphilis or gonorrhea, in the majority infection had occurred between 17 and 19. Le Pileur also stated that out of 18 syphilitic prostitutes between 12 and 50 years of age, 452 ad contracted syphilis between 16 and 20. The broadening f the sphere of tertiarism which has been the tendency of the last few years was also a noticeable feature of the Congress. Fournier stated that among 4400 adults with direct or indirect syphilitic accidents, the brain, spinal cord or nerves were affected in 1857. He considers the prognosis of syphilis affecting the nervous system as most unfavorable; observing that in every hundred cases of cerebral syphilis, only twenty-two recover; nineteen die and fifty-nine survive, but with infirmities practically equivalent to death.—*Sem. Med.*, September 13.

Encouraging Results of Koch's Investigations of Malaria in Italy.—Professor Koch, who sailed for the Dutch East Indies in August to continue his research on malarial infection, announces as the results of his studies in the Tuscan Maremma that he is convinced that man is the only host of the malarial parasite during the months from summer to summer. The alternating host, the mosquito, is found all the year around, but only during the summer months does the parasite find in its body the warmth necessary for its development. When summer arrives the mosquito derives the parasite from one person and transfers it to others, thus transmitting infection. The connecting link in the infection is therefore the recurrences during the fall and winter, in the persons infected the summer before. If these recurrences could be jugulated—and this is possible with quinin—the infection could be eradicated before the arrival of summer; the mosquitoes would then find no parasites and malarial infection would gradually die out. When he first arrived in Tuscany, in April, all the cases he could find were old, dating from 1898. Suddenly, on the arrival of warm weather, large numbers of fresh cases were noted—a regular epidemic. He concludes that it is possible with the aid of quinin to break down the bridge that connects season with season, and in this way exterminate malaria.

Construction of Illinois Law and Dowie Treatment.—Until the supreme court of the state finally passes on the questions involved, more or less interest will attach to the reasoning of Justice of the Peace Everett, Chicago, in the case of the People of the State, for use of the State Board of Health, vs. Henricka Bratsch, which is reported in full in the *Chicago Legal News* of September 23. The defendant, who was charged with practicing medicine without a license, was called to care for the wife of the prosecuting witness during her confinement in childbirth. The patient and the defendent were both members of the Christian Catholic Church, presided over by "Dr." Dowie. The defendant contended that she was not guilty of practicing medicine, within the prohibition of the statute, because of the provision therein that: "This act shall not apply to any person who ministers to or treats the sick or suffering by mental or spiritual means, without the use of any drug or material remedy." The imposition of a fine shows how the Justice looked at it. He holds that the phrase, "without the use of drugs or material remedy," is pure surplusage, and that negativing the use of drugs and material remedies does not enlarge the affirmative protection accorded to mental and spiritual means, so that the latter terms shall include all means, except drugs and material remedies. Moreover, he says that the entire portion of the medical practice act providing that the act shall not apply to any person who ministers to or treats the sick by mental or spiritual means, is merely a declaration of what has always been the law, and would have been the law whether it was in the act or not. There is no question of the right of a man suffering from a disease to call in any system of treatment that seems best to him. And the adherents of this faith have a perfect right to treat disease or suffering by any means allowed by their faith—so long as those means do not encroach on the ordinary practice of medicine or surgery. But while praying a dislocated shoulder into place is, for example, permitted, the justice holds that to pull it into place requires a license. So, had the defendant sat by the patient's bedside and merely prayed, placing her entire confidence in the power of God, he holds that her treatment would have been permitted, and the result would have been immaterial. But when, as the evidence showed, she prayed part of the time, and part of the time lent her strength to "assisting Nature," as the counsel styled it, giving directions to the elder and nurse who were also doing all in their power to assist Nature, and finally used a pair of scissors to perform a surgical operation, viz., cutting the umbilical cord, the justice declares that he is satisfied she was placing as much reliance in her skill as a midwife as in her faith in God, and for the the former, he holds, she required a license.

Mark Twain and "Christian Science."—Mark Twain has tried "Christian Science" and tells us all about his experience, in the October *Cosmopolitan.* He was in Bavaria, or in some other foreign out-of-the-way place, and in an unlucky moment fell from a high precipice, broke forty or fifty bones, and dislocated most of the joints of his body. No physician was to be had within miles, but a horse doctor, and a "lady doctor" from Boston, who was a follower of Mother Eddy. He did not like to try the horse doctor, so he tried the "Christian Scientist," and he tells us how he tried to understand the occult reasoning of Mrs. Fuller—that's her name—from Boston. When he complained of the pain he was told: "Matter has no existence; nothing exists but mind; the mind can not feel pain, it can only imagine it." "But it hurts, just the same," exclaimed Mark, as the dislocated joints and the broken bones got in their work. "It doesn't," remarked Sister Fuller, and she immediately proceeded to show the inconsistency of pain, the reasoning and wherefores of the explanations befuddling the patient considerably. Just as he was most bewildered, the Stubenmädchen accidently stepped on the cat's tail, and the cat let fly a volley of cat profanity. Mark, with hesitancy, asked: "Is a cat's opinion about pain valuable?" "A cat has no opinion; opinions proceed from mind only; the lower animals being eternally perishable, have not been granted mind; without mind opinion is impossible." "Then she had a *real* pain." "I have already told you that there is no such *thing* as real pain." "It is strange and interesting. I do wonder what was the matter with the cat," Mark soliloquised. After more interesting philosophic conversation, in which the cat was the central thought, Mark was instructed in the grand principles of "Christian Science." "The fundamental propositions of 'Christian Science' are summarized in the four following self-evident propositions: 1. God is all in all. 2. God is good, Good is mind. 3. God, spirit, being all, nothing is matter. 4. Life, God, omnipotent good, deny death, evil, sin, disease. There—now you see." But he could not see, and had the "fundamental propositions" worked backward without effect. Nevertheless the "Christian Scientist" fixed him up all right. The bones slipped into place, the broken ends got together, and everything was lovely as far as the fractures and dislocations were concerned. But he had a cold and a stomach-ache, and as Mrs. Fuller could not manage these, he was finally compelled to call the horse doctor, who relieved him after giving a few buckets of bran mash. Mark treats the subject in his usual manner. Part of the time he employs sarcasm, then a little of that innocent philosophy is brought into play, and the latter has full sway when he tells about the book, the "Bible Annex," as he dubs it, which, though inspired eighteen hundred years ago, was not copyrighted till 1875, since when it has been copyrighted three times, and this he does not understand. He thinks they would get along better if they did not go so far in claiming business. "The 'Christian Scientist' was not able to cure my stomach-ache and cold; but the horse-doctor did it. This convinces me that 'Christian Science' claims too much. In my opinion it ought to let diseases alone and confine itself to surgery. There it would have everything its own way. The horse-doctor charged me thirty kreutzers, and I paid him; in fact, I doubled it and gave him a shilling. Mrs. Fuller brought in an itemized bill for a crate of broken bones, mended in two hundred and thirty-four places—one dollar per fracture. 'Nothing exists but Mind?' 'Nothing,' she answered, 'all else is imaginary.' I gave her an imaginary check and now she is suing me for substantial dollars. It looks inconsistent."

Magnetic Healing.—The following decision was rendered by the Appellate Court, State of Illinois, Third District, May term, 1899, by Presiding Justice Wright, from McLean County: "This was an action of debt in the name of the People for the use of the State Board of Health, against appellant to recover a penalty for practicing medicine without having a certificate from the State Board of Health in compliance with the act to regulate the practice of medicine. The trial was by jury and resulted in a verdict and judgment against appellant for $100 from which he appeals, and for reversal insists the trial court erred in the admission of improper and the rejection of proper evidence, the verdict is against the law and the evidence of the case, the court gave improper instructions to the jury and refused proper instructions requested by appellant. It appeared from the evidence that appellant kept and maintained an office in the city of Bloomington where he received, examined and treated persons for diseases. He advertised that he had effected marvelous cures of various kinds of diseases, without the use of medicine or surgery by magnetic treatment, and that patients reap rich rewards of his large experience and new methods, and that his charges were $1 for each treatment or $5 per week, of seven treatments. It was proved on the trial that appellant had treated one man for disease of the stomach, another for asthma, and a third for sunstroke and consequent ailments, having a contract with the later for $15 to be paid in hack hire, and $15 in money, all of which have been paid but $2. The method of treatment was by rubbing the parts of the body supposed to be affected. It is first insisted that these facts do not prove that appellant practiced medicine within the meaning of the statute. Section 10 of the act in question declares that any person shall be regarded as practicing medicine, within the meaning of the act, who shall treat, operate on, or prescribe for any physical ailment of another. If to advertise that he had effected marvelous cures, and that patients reap rich rewards of his large experience and new methods, and by means of such advertisement secure the attendance of persons whom he actually treated and operated on does not fall literally within the definition of the statute of what shall be regarded as practicing medicine, then it would be difficult to imagine the legislative intent by such enactment. If to treat or operate upon a person for a physical ailment by rubbing the affected part is not a treatment or operation for a physical ailment, what is it? It seems to us the mere statement of the question demonstrates the absurdity of every opposite position. In Eastman v. People, 71 Ill. App. 236, a case similar to the one we are considering, it was held that where the treatment consisted wholly of rubbing and manipulating the affected parts, with hands and fingers, and by flexing and moving the limbs of the patient in various ways, the statute was violated, although no medicines or instruments were used. That to treat or operate on does not necessarily imply the use of medicine or instruments, many of the minor operations being effected without the use of instruments by mere pressure, extension and flexion, and that medicine is the art of understanding diseases and curing and relieving them when possible, it being that branch of physic which related to healing of diseases, and the act in question is not restricted to any particular methods of remedies, which are almost innumerable, considering what are used and what have been discarded. It is next insisted that appellant was acting under the direction of Dr. Ross, a licensed physician, and that the court erred in its rejection of evidence tending to prove such fact. The evidence upon this point that was offered and to which objection was sustained by the court consisted of the general statement of

Dr. Ross that appellant was acting under his direction and that certain symptom blanks were used by appellant in his communications with Dr. Ross. There was no specific evidence offered that such blanks were used, or that Dr. Ross ever gave any directions, in the cases of Wineberg, Reeve and Augustus, the only persons shown by the evidence to have been treated or operated on by appellant, and inasmuch as the rejected evidence was not responsive to the case made by the plaintiff, the objection was properly sustained. It is true that upon the trial the counsel for appellant stated to the court that he expected to show that appellant made use of these blanks and acted as the assistant of Dr. Ross in each of the cases in evidence, but when the blanks themselves are produced, as shown in the abstract of the record, it is apparent they have no reference to any of the cases in evidence. Dr. Ross also testified that the symptom blanks of the three persons were furnished by him, but the absence of the blanks, if they were used and sent to Dr. Ross, is wholly unaccounted for. Much complaint is made of the instructions of the Court to the jury, both of those given by the Court and such as were refused. In its instruction the Court told the jury in substance, that although the treatment may have been requested and directed by a regular attending physician of the person being treated, yet the person in fact administering the treatment would be guilty of practicing medicine. As an abstract principle such instruction is wrong and vicious and should not be given in any case, but in the case presented there was no evidence admitted to the jury, and no competent evidence offered, that in any of the three instances wherein it was proved that appellant had practiced medicine, he was acting under the direction of a regular attending physician, of the persons who were in fact treated or operated on by appellant, and hence the instruction, although wrong in principle, could not and did not harm appellant. The instructions requested by appellant upon this point were properly refused. Some of the instructions are not otherwise free from criticism, still we think appellant not harmed by them, and the instructions given at his request as fairly stated the law as the evidence justified and his rights demanded, and in view of the whole evidence, no other verdict than the one returned, that of guilty, would have been proper or responsive to the evidence, and in such cases errors of instructions will seldom reverse. Finding no reversible error the judgment of the Circuit Court will be affirmed."

Mode of Infection and Symptoms of Bubonic Plague. — The report of Khan Bahadur N. H. Choksy, of Bombay, India, based on the examination of 939 cases of the plague in a Bombay hospital, deals with infection under the following headings: 1. Through the skin. 2. From the contents of buboes. 3. Through the sputum. 4. Through inspiration; atmospheric conditions, excreta, through the stomach, rat bites and shoe bites.

1. The fact that buboes were mostly found in the femoral and femoral-inguinal region made it seem probable that infection gained entrance through the skin, but in not more than 5 per cent. of the cases could there be found evidences of a breach of surface, while it must be admitted that these persons had been in the habit of going barefooted all their lives, and had innumerable cracks and fissures on the soles and elsewhere. Yet traces of inflammatory mischief from the absorption of the virus through the crack or fissure were conspicuous by their absence.

2. The pus from incised buboes was always found, on the first day, to contain a large number of plague bacilli, which, however, gradually diminished within three to five days, after which the discharge from the wound was almost sterile. In this connection a case is reported in which a member of the hospital staff, having operated on some cases, became infected directly through the hands, leading to the formation of buboes in axillary region with diffused infiltration over the forearm, arm and chest.

3. In the patients with plague, who subsequently developed pneumonia—pneumonic type—the sputum was found to contain almost pure cultures of the plague bacilli. "And knowing as we do the habits of the lower classes, who would spit anywhere and everywhere, round about where they were sitting or lying down, it is not difficult to conceive how prolific a source of infection such sputum must be, and that it must have played, and is probably playing a by-no-means insignificant part in diffusing the epidemic."

4. While the study of the sputum might lead one to conceive that infection might occur by means of the dried sputum, ordinary respiration does not seem to infect, or scarcely a doctor, nurse or hospital attendant would enjoy such immunity as they do.

From the fact that the plague epidemic progresses like a regular wave from one end of the country to the other, as does influenza, atmospheric agency must be a potent factor. While infection by means of the feces or urine may be possible, it was not found what proportion of these excreta contained the germ. Infection through the stomach seemed doubtful, since in no case were the abdominal symptoms marked, or the mesenteric glands so enlarged as to indicate primary infection through the digestive tract. No infection through the water-supply was possible, nor could it occur through grain—millet grain—used as food, which necessarily entailed the process of boiling, sufficient in itself to destroy the micro-organism. In no case was the plague attributed to rat bites, or to fleas, flies, ants, bugs or even to mosquitoes.

The symptomatology is considered under the head, "General Condition of Patients on Admission," being divided into: 1, attitudes; 2, gait; 3, aspect; 4, speech; 5, temperature; 6, buboes; 7, nervous and circulatory system, etc.

Regarding the attitude, the statement is made that owing to the advanced stage at which most cases were admitted, there was probably no characteristic attitude, unless it was that the patient as a rule would generally lie flat on the back, with limbs extended and one leg almost invariably crossed over the other. As a rule the gait was tottering, with weakness of the limbs, and bending of the knees, indicating thorough prostration. The aspect was almost invariably characteristic. Ordinarily the plague seemed to be stamped on the patient's features, giving it a characteristic and not to be easily-forgotten appearance. The features depicted fear and anxiety, or sadness and resignation, as if from an intuition of an impending fate. In certain cases of the nervous type there was delirium, with a maniac appearance, blood-shot eyes protruding through their sockets, giving rise to a weird aspect. The speech was as a rule characteristic, and, in fact, speech combined with the aspect, more often than not, determined the diagnosis of the plague. The speech was of two kinds. In the one it resembled that of a man under the influence of drink, the words being broken up into syllables, and each syllable articulated with difficulty and hesitation, and in a more or less thick and husky tone. In the second variety the patient's reply would be pronounced snappishly, with an angry look, the forehead being thrown into wrinkles, indicating that he was annoyed at being disturbed. In other cases aphasia existed.

Before the rise of temperature there is for several pre days a feeling of malaise, followed later by the appearance of a bubo, at which time the temperature begins to rise. It may or may not be preceded by a rigor. Children always show a higher rise than in the case of adults, the general range being from 102 to 105 F., with morning remissions and evening exacerbations with a difference of from 1 to 2 degrees. The temperature generally falls by lysis—sixth to tenth day—crisis being exceptional. When there is a rapid fall in the temperature it almost invariably indicates impending death.

The appearance of buboes is usually coincident with the initial rise of fever, and is characterized by pain, tenderness and swelling. In most cases the pain is severe, but exceptionally the buboes could be handled without giving discomfort. Swelling was always marked, due to inflammation of the gland, and to effusion or infiltration, serous, serosanguineous or hemorrhagic around the buboes. The size of the bubo was found to be quite independent of the gravity of the case. (Regarding the location of the buboes, see JOURNAL, xxxiii, No. 3, p. 178.)

At an early stage the nervous system is profoundly affected: headache, vertigo, intense pain at the back of the head, over the frontal region, along the spine or in the course of the sciatic nerve, muscular twitching, tremors and subsultus are present. Delirium may appear on the third or fourth day, and may be acute, or of the low muttering variety, as in typhoid fever. In some cases hypersensitiveness was observed so that the slightest touch would excite screams.

In no other acute disease does the pulse—an index of circulation—present so many variations, in force, frequency, volume and tone, as in bubonic plague, and in no other disease is the disproportion in the normal ratio between the pulse, temperature and respiration so divergent. The pulse varies with the character of the disease. The full bounding pulse, so often associated with high temperatures, is conspicuous by its absence, and in the majority of cases the pulse is easily compressible, extremely feeble and very frequent. As the case advances, the pulse becomes intermittent, regular or irregular, more often the latter, and distinctly dicrotic. The dicrotism was extremely well marked in some cases, and in advanced ones was considered characteristic. Failure of the heart's action was either sudden or gradual, with consequent collapse. No case of sudden death during convalescence was observed.

The blood was found not to be markedly deprived of its hemoglobin, there being present from 65 to 80 per cent., and a leucocyte count of 12,000 to 28,000. Bacteriologic examination of the blood was undertaken by the Austrian Commission, with the conclusion, like that of the other commissioners, that cover-glass preparations of stained blood were not only unreliable, but extremely fallacious, and that the only reliable test was by means of cultures.

Increased frequency of the respiration is a marked feature of the disease, probably due in part to hypostatic congestion of the lungs and edema of the larynx. The lips, teeth and gums are generally covered with sordes, and the mouth is dry, the tongue being covered with a thick white coat in the center, while the edges are red. The urine is generally scanty, high colored, and serum albumin is always present. Microscopically, hyaline casts are seen. Hematuria rarely occurs. The eyes are always injected and suffused, and in many cases sub-conjunctival hemorrhage is very distinctly marked, the whole of the eye appearing as a large bloody mass overlapping the sclero-corneal junction, but leaving the cornea free. Panophthalmitis with sloughing of the cornea may be present.

The points to be specially noted in making the diagnosis are the following: 1. Presence of fever, high or low. 2. A quick, easily compressible pulse. 3. Furred tongue. 4. The aspect of the patient, as shown by the *facies pestica*. 5. The peculiar hesitating speech. 6. The presence of a bubo. 7. Suffused eyes. 8. The presence of cough with rusty or hemorrhagic sputum.

Queries and Minor Notes.

PEDIATRIC STATISTICS.

FLORENCE, ALA., Sept. 25, 1899.

To the Editor:—I want some articles on diseases of children, as to feeding, hygiene, etc. Please refer me to where I can find them. I also want the statistics as to the death-rate of children, caused from artificial feeding.

J. D. D.

ANSWER:—We know of no way of meeting our correspondent's request better than by referring him to the leading text-books on the subject, such as "Keating's Cyclopedia," the more recent work of Starr, and others. The literature on infantile diseases, bearing more or less on the question of diet, is very extensive, and a number of articles have been recently published or abstracted briefly in the JOURNAL. Articles on the subject are continually appearing in the medical journals.

The Public Service.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Sept. 30, 1899:

P. A. Surgeon C. E. Riggs, detached from the *New York* and ordered home to wait orders.

P. A. Surgeon E. S. Bogert, ordered to the *New York*.

P. A. Surgeon C. P. Kindleberger, detached from the Philadelphia Naval Hospital and ordered to the *Iowa*.

P. A. Surgeon M. S. Guest, detached from the *Wabash* and ordered to Philadelphia Naval Hospital.

P. A. Surgeon R. P. Crandall, detached from the *Iowa* and upon relief to proceed home and wait orders.

Asst.-Surgeon B. L. Wright, ordered to additional duty on board the *Monterey*.

Surgeon T. A. Berryhill, detached from the *Panther* when out of commission and ordered to the *Monongahela*.

Marine-Hospital Changes.—Official List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Sept. 28, 1899.

Surgeon F. W. Mead, granted leave of absence for two days.

P. A. Surgeon Rupert Blue, granted leave of absence for one month and 8 days from October 6.

Asst.-Surgeon S. R. Tabb, to proceed immediately to South Atlantic Quarantine for temporary duty.

Asst.-Surgeon R. H. von Ezdorf, to proceed to Miami, Fla., for special temporary duty.

Asst.-Surgeon W. C. Billings, relieved from duty at New York City, and directed to report in person at the Bureau for temporary duty in charge of the miscellaneous division.

Acting Asst.-Surgeon G. W. Bailey, granted five days leave of absence.

Acting Asst.-Surgeon W. S. Walkley, granted leave of absence for four days.

Hospital Steward N. C. Comfort, to proceed immediately to New York City and report to P. A. Surgeon H. D. Geddings for assignment to duty in charge of the steamer *Wapiti* on her voyage from New York to Florida.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Sept. 30, 1899:

SMALLPOX—UNITED STATES.

Massachusetts: Everett, September 15 to 23, 1 case.
Tennessee: Memphis, September 15 to 23, 1 case.
Virginia: Portsmouth, September 15 to 23, 1 case.

SMALLPOX—FOREIGN.

Belgium: Antwerp, September 2 to 9, 1 case.
Bohemia: Prague, August 26 to September 9, 6 cases.
Brazil: Rio de Janeiro, July 27 to August 11, 121 cases, 63 deaths.
Egypt: Cairo, August 19 to 26, 1 case.
India: Bombay, August 5 to 29, 12 cases.
Greece: Athens, September 2 to 29, 12 cases.
Mexico: Chihuahua, September 8 to 16, 6 deaths.
Russia: Moscow, September 2 to 10 3 deaths; Odessa, August 26 to September 9, 2 cases, 1 death; Warsaw, August 26 to September 9, 8 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Key West, September 25 to 29, 166 cases, 9 deaths; Miami, September 5 to 22, 2 cases, 1 death.
Louisiana: New Orleans, September 15 to 29, 19 cases, 4 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, July 28 to August 11, 4 deaths.
Colombia: Cartagena, August 26 to September 9, 1 case, 1 death; Panama, September 12 to 19, 3 cases, 1 death.
Mexico: Tampico, September 15 to 22, 1 death; Tuxpan, September 4 to 11, 3 deaths; Vera Cruz, September 14 to 21, 6 deaths.

CHOLERA.

India: Bombay, August 15 to 29, 4 deaths; Calcutta, August 5 to 19, 15 deaths; Karachi, August 12 to 19, 3 cases, 2 deaths.
Japan: Osaka and Hiogo, August 19 to 26, 1 death; Yokohama, August 19 to 26, 1 death.

PLAGUE.

China: Amoy, August 5 to 12, 40 cases, 40 deaths; Hongkong, August 5 to 19, 44 cases, 46 deaths.
Egypt: Alexandria, August 28 to September 3, 1 case, 1 death.
India: Bombay, August 15 to 29, 159 deaths; Calcutta, August 5 to 19, 87 deaths; Karachi, August 12 to 19, 2 cases, 2 deaths.

CHANGE OF ADDRESS.

Bebb, W. S., from Chicago to Hinsdale, Ill.
Conwell, F. G., from 103 State to 381 Superior St., Chicago.
Elmore, R. D., from Hiawatha to Olsburg, Kan.
Fridus, S. L., from Maywood to Ashland Boul. and Taylor St., Chicago.
Greenley, T. W., from Loon Lake, N. Y. to Hot Springs, S. D.
Hendley, F. W., from 2528 Chatham to 727 E. McMillan St., Cincinnati, Ohio.
Isley, W. P., from Newport News to Hampton, Va.
Ingalls, H. A., from Chillicothe to Berkshire Building, Cincinnati, O.
Jones, M. D., from 76 43d Court to 67 S. 44th Ave, Chicago.
James, W., from 2115 Van Buren to 726 Taylor St., Chicago.
Johnston, C. W., from Heard to Worth, Ga.
Jackson, D., from Pleasantville to Audubon, Iowa.
Keenan, I. W., from Piedmont to Quaker City, Ohio.
Mather, E., from Detroit to Birmingham, Mich.
Riemans, L. A. M., from Holland, Mich. to 640 W. Congress St., Chicago.
Schofield, P. B., from Chicago, Ill. to Newark, Mo.
Woodward, J. H., from Brandon, Vt. to 58 W. 40th St., New York City.

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Original Articles.

PERIORITY OF VAGINAL ROUTE OVER ABDOMINAL INCISION IN SURGICAL TREATMENT OF PELVIC DISEASE IN WOMEN*.

BY J. RIDDLE GOFFE, M.D.
NEW YORK CITY.

In the somewhat heated discussions that have been d from time to time on the abdominal versus the ginal incision, there have not been wanting most lent advocates of the abdominal route. I think I am e in saying, however, that among the latter there nnot be found one who denies that if equally thorough, nplete, and satisfactory work can be done *per vaginam,* s the preferable route of attack. The reasons for this obvious: Throwing out of account entirely the old prehension and fear of sepsis, which formerly attended aparotomy, it is a serious thing for a woman to sub- t to an incision through her abdominal walls. To umerate in detail the objections: The incision necessi- es the placing of stitches which sooner or later must removed and the fear of this ordeal fills the patient h dread. 2. The wound must be supported by ad- ive plasters which are most uncomfortable and an- ying, and then the patient is bound up in an ab- minal bandage. Later there presents the unsightly r and, last and most important of all, there persists months and years the ever-eminent danger of ventral rnia. Various devices for stitching the abdominal lls have been resorted to until scarcely two men in whole country use identically the same method, and all must submit to the mortification of seeing or rning that a certain proportion of every series of es is afflicted with hernia. On the other hand, the ginal incision is devoid of after-pain, is free from necessity of removing stitches, requires no adhesive ster, leaves no scar, and has never been known to followed by hernia; so that I say if the vaginal ite affords facilities for as complete, thorough, and isfactory work as the abdominal incision, the balance st swing in favor of its advocacy.

By "vaginal incision" is no longer implied a simple ncture or the making of a small opening, but a free ision throughout the entire length of the canal, sup- mented by a transverse incision in front of the cervix d sometimes by a supplementary one posterior to the vix. Through such incision a few persistent oper- rs have been enabled to bring within the field of sur- al treatment the entire range of pelvic disease. This atment has not been fragmentary, nor preliminary a later abdominal incision or treatment in some other y, but has effected complete and satisfactory cures ng all lines demanding treatment.

A few years ago Péan and Ségond of Paris and Jacobs of Brussels brought the vaginal method forward as the preferable route of attack in suppurative pelvic disease and in fibroid tumors of the uterus, but with them the operation meant an absolute sacrifice of all the internal genital organs; their patients were cured, but at too great a sacrifice, and in the reaction which followed, the vaginal method seemed destined to be relegated to a subordinate position. At this stage of events Mackenrodt and Wertheim of Germany, Byford of Chicago, and Vineberg and myself, in New York, began the extension of the vaginal method to simpler conditions such as retrodisplacements of the uterus, either with or without adhesions. Mackenrodt and Vineberg confined themselves more especially to the operation known as vaginal fixation for the relief of retrodisplacements. Wertheim, Byford, and myself promptly recognized the objections to that procedure and, quite independently of each other, instead of fastening the uterus itself, reached up on the broad ligaments, picked up the round ligaments in their upper border, lapped them on themselves, and stitched the folds together so as to shorten the round ligament and make it the determining factor in maintaining the position of the uterus. Dr. Byford, in addition to this, deems it wise to attach the peritoneum of the fundus to the peritoneum of the bladder near the symphysis, as an additional support. In this procedure, then, we have a most ideal treatment for the common lesion of retroposition of the uterus either with or without adhesions, for through the vaginal incision all adhesions, either to appendages or to the uterus, are easily broken up and the uterus placed in its proper position. The results as reported by all operators are most satisfactory, many of the patients becoming pregnant after operation, passing through their pregnancy with comfort and the uterus remaining in its normal position thereafter. This operation, then, comes in competition with two procedures commonly accepted as the correct ones for the treatment of displaced uteri, viz., abdominal fixation, suspensio uteri and the Alexander operation. Admitting that the results are equally good, which by the way I am not prepared to do, abdominal fixation—hysterorrhaphy or suspensio uteri—is immediately thrown out because it necessitates a laparotomy with all its attendant train of unfortunate consequences, and the Alexander operation also yields in comparison because of the many objections to it which are entirely obviated by the vaginal operation.

The objections to the Alexander operation are many. In the first place, it has only a very narrow field of application, for any uterus that is not absolutely movable contraindicates the employment of the Alexander operation, and the proportion of retroverted uteri that are non-adherent and free from complications in the appendages is extremely small. Moreover, the ligaments are not always to be found, and when found may break when subjected to the necessary strain. In addition to this, two unsightly scars are left on the abdominal wall, and the danger not only of one hernia but of two is ever present. The danger of hernia after the Alexander operation is not to be passed over lightly. Careful investigation of the records at the Hospital for Ruptured and Crippled in New York City, when compared with series of cases of Alexander's operation reported by prominent operators, reveals the fact that a sufficiently large percentage of every operator's cases, in this operation, suffer eventually from hernia to really throw the operation into disrepute. In the shortening of the round ligaments through the vagina, the broad ligaments are always to be found, they are dealt with at the largest and strongest portion of their extent, there is no reason why the operation should ever fail, there is no scar, and there is no hernia. For the treatment, therefore, of the simple condition of retroversion, either with or without adhesions, the shortening of the round ligaments through the vagina is proving itself to be the operation par excellence.

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But this anterior vaginal incision is lending itself to still further work. In breaking up adhesions that bind down the malplaced uterus and appendages, these organs are gradually and gently delivered into the vagina, where they can be thoroughly examined fully as satisfactorily and in some instances much more so than through the abdominal incision, and then treated in accordance with the most approved principles of conservative surgery. Under these circumstances, the appendages of one side are frequently removed because of hopeless disease, the ovary of the other side freed from its adhesions, its diseased portions resected, and, when necessary, the tube amputated before the round ligaments are shortened. In the application of such conservative work the skilful, conscientious gynecologist finds his highest mission, and for the fulfilment of it no incision offers such facility as that through the anterior vaginal fornix. Two of my cases which have been subjected to ablation of the appendages of one side, and to more or less conservative work on those of the other side have not only been relieved of their symptoms but have become pregnant and borne children.

But what of other and more serious conditions? What of large pelvic abscesses with plastic exudate and strong intestinal and omental adhesions? Can these be treated thoroughly, satisfactorily and, last but not least, with safety through the vaginal incision? Experience is daily proving that they can. In such conditions this operation lends itself as an exploratory measure for the purpose of determining to what degree the appendages are involved, and whether or not it is possible to save either the whole or a portion of the ovary. If the appendages of both sides are hopelessly destroyed, the operation at once becomes one of total hysterectomy and ablation of all the internal generative organs. In such a condition I have yet to meet a case that can not be dealt with to my entire satisfaction through the vagina.

Extended experience is making it possible to differentiate by sight and touch the different structures which must be dealt with under these circumstances and thus avoid injuring those which must be left behind. In such cases the intestines are occasionally injured by the best operators when the operation is done through the abdominal incision. It is certainly fair to allow the same latitude to the man who operates through the vagina. By patient, painstaking care there is no reason why in either the intestines should be injured except in those cases in which the intestinal wall has become degenerated to such a degree as to render it less resistant than the surrounding tissue. In separating adhesions under such conditions the bowel will at times becom torn and demand suture; but my contention is that i should occur and does occur no oftener in the vagina than in the abdominal operation. Indeed, I believe it i less frequent for the reason that in many instances th diseased tissue can be entirely removed from below without breaking through the vault of adhesions betwee the coils of intestines and omentum above, allowing th adventitious exudate and adhesions to melt away an disappear through drainage and absorption.

To recount cases illustrative of this work would be bu to enumerate conditions with which all are familiar, m contention simply being that no matter how simple th condition with which we have to deal, or how complicated and difficult, every condition is more amenabl to safe and satisfactory treatment per vagina than pe abdomen. In this connection I could describe to yo cases of ectopic gestation, cases of dermoid cyst of th ovary, cases of enormous bilateral abscess of the ovarie and tubes, small fibroids of the uterus that have bee removed by myomectomy, leaving the uterus and appendages intact, large fibroids of the uterus, involving th whole organ, six, eight, and ten pounds, removed safel and satisfactorily *per vaginam.* Indeed, it is difficult t describe any condition in the female pelvis amenable t treatment by abdominal incision that cannot be deal with *per vaginam,* saving the patient the abdominal incision, sparing her the nervous shock and wear and tea which comes from the surapubic work as contrasted wit that from below, and shortening her convalescence b from one to three weeks. Indeed, I believe the time i coming, as the technic of this procedure becomes mor and more familiar, when any man who proposes to do laparotomy will be called on to give most cogent reason why he advises the suprapubic incision instead of th infrapubic.

After these operations, even the most radical, patient suffer very little pain, they are allowed to take an position in bed that contributes to their comfort; the are free from the slightest irritation of the bladder—a fear that might suggest itself to many when contemplating the dissection of the bladder from the uterus the convalescence is smooth, and many a woman goe through a combination of procedures on the interna generative organs without ever realizing, by any discomfort which occurs in her convalescence, that she has ha anything more serious done than a simple trachelorraph and perineorraphy. Indeed, I have had patients in m private sanitarium who, in an off-hand way, knowin that they were to be curetted and perhaps have a laceration of the cervix repaired, have said that they wante me to do everything that I found necessary when the were under the anesthetic. In two such instances withi the last three months, I have, unknown to the patient opened the anterior fornix, in one case have resecte part of one ovary and applied ignipuncture to the othe and shortened the round ligaments without the patien ever realizing that anything more was done than a curetting of the uterus and repair of the perineum. In th second case I removed the appendages of the right side applied ignipuncture to the ovary of the left side afte separating firm and numerous adhesions, and shortene the round ligaments in addition to curetting the uteru and repairing the perineum, without the patient havin sufficient symptoms to ever suspect that anything mor was done than the sewing up of the perineum.

In conclusion, permit me to say that the simplicit of this method of operating, the facility it offers fo either the most conservative or the most radical proced res, the safety and comfort which it insures the patient, oth immediate and remote, should commend it to every perator. Experience gives confidence, and facility will ome with practice.

ECHNIQUE OF SURGERY OF THE UTERUS AND ADNEXAE PER VAGINAM.*

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LOUISVILLE, KY.

When I gave the title of my paper I supposed that t would be read before this Section separately from ther papers, but I am associated in the program with everal other persons in a "symposium" intended to resent all questions of practical significance in relation o the advantages of the infrapubic and the suprapubic ethods in treating diseases of the uterus and its ad- exæ. The popular belief that there is any antagonism etween the scientific celiotomist and the vaginal hys- erectomist is not justified by facts, for there are many ases that may be successfully treated by either method, nd the preference that one surgeon may have for the aginal route and another for the abdominal route, is ften largely the result of experience. However, we ay refer to some of the arguments against vaginal ysterectomy and the treatment of the uterine adnexæ, nd show that there is no justification for these objections, if the operations are performed by surgeons who e theoretically and practically familiar with the correct technic in such work. My views in relation to hat may be accomplished per vaginam have been modied within the last few years because of a change in e technic previously adopted. Until we learned the lvantages, in vaginal surgery, on the uterus and ad- exa, resulting from bisecting the uterus, we could not ntirely controvert some of the arguments used to show e superiority of the abdominal route. It is even now aimed that the suprapubic route possesses an advan- ge over the infrapubic route, in that by the former e can see nearly all the diseased structures as we are parating adhesions of the intestines, but that we can t do so by the latter. This is no longer true after secting the uterus, which may be done with but little anger of wounding important structures, and then each alf may be separately pulled outside the vulva, adhe- ons treated as they appear to the sight and the sense of uch, the diseased structures being seen more distinctly an by any other method. It is impossible to see all e adhesions by the abdominal route when they are ex- nsive and deeply seated in the pelvis, and it matters t what precautions we take to shut off the intestines om the field of operation, the danger of wounding ther the large or the small intestines in such cases is great as by the vaginal method. I am judging of e relative advantages of these two methods from my perience in operating by both routes. I have never ounded an intestine nor a ureter in the performance a vaginal hysterectomy, or in vaginal incision and the moval of diseased and adherent adnexæ; but I have een less fortunate in treating the same kind of cases celiotomy. Nor is there any force in the argument ainst vaginal hysterectomy, or vaginal incision and moval of the ovaries and tubes, of the physicians ho assert that we can not do successful work in so-called encysted peritonitis with the accumulation of pus in the pelvis shut off from the abdominal or peritoneal cavity by an over layer of adhered intestines. These are the cases in which the vaginal method is especially indicated, for we can, by incision and drainage, or by hysterectomy with, and in some cases without, the removal of the ovaries and tubes, symptomatically cure such patients to such an extent that we hear no further complaint of trouble in the pelvis or in the abdominal cavity. This is because of the conservatism of nature in systematically arranging the adherent bowels in the effort to protect the healthy peritoneum, and, if left undisturbed, they cause no trouble afterward and the adhesions are soon softened and can not be detected by a bimanual examination with a finger in the rectum or in the vagina. This has been proven by an abundance of experience, but the dangers in separating these adhesions in a celiotomy have likewise been abundantly demonstrated. While a large accumulation of pus in the pelvis may often be sterile, we never know when it is virulent, and then the danger of infection is great, because it is next to impossible to prevent soiling the peritoneum and causing septic infection. But granting that the pus is sterile and the adhesions are all separated without wounding an intestine, and the patient makes a prompt recovery from the operation, she is left in an incomparably more dangerous condition than she would have been had the operation been performed from below and the adhesions not disturbed. Post-operative complications in suprapubic incision so often arise in these cases that we can not believe it is possible for such extensive adhesions to be separated without the recurrence of irregular adhesions, more complicated and more dangerous than the adhesions systematically formed in Nature's effort to protect the life of the woman. The objection to vaginal hysterectomy because of the danger of encountering a diseased appendix which can not be removed from below, is not worthy of serious consideration, because if an appendix is sufficiently diseased to justify its removal, then the symptoms would attract attention to appendicitis and indicate the necessity for a celiotomy. But as other members will more thoroughly discuss the objections urged against vaginal hysterectomy and vaginal incision, etc., I will confine my remarks to a few minor points in the technic that enables the operator to overcome the difficulties more easily. No one can successfully controvert some of the arguments against vaginal hysterectomy unless he recognizes the necessity for and practices bisection of the uterus before separating the adhesions of the ovaries and tubes. Again, most operators use too many instruments, which complicate and confuse instead of being a benefit. In nearly all published illustrations demonstrating the methods of performing vaginal hysterectomy, or any form of surgery on the vagina, the uterus or its adnexæ, we find four retractors introduced, one anteriorly, one posteriorly, and two laterally, none of which is often of any benefit, and all combined result in a complication that may prevent perfect surgery by this channel. There is seldom any use for a retractor in treating diseases of the adnexæ by incision through the vaginal vault, and there is no use for more than one in vaginal hysterectomy, and in most cases all may be dispensed with. The advantages and simplicity resulting from dispensing with retractors are so striking that persons who have previously used several retractors can hardly understand why they did so. While the danger of wounding an intestine or the ureter in removing the adnexæ per vaginam by vaginal incision is greater than where we first bisect the uterus, they may be so minimized as to be practically of no consequence. I claim no excellence in this work over any well-trained surgeon in vaginal hysterectomy and what I have accomplished any one else may accomplish, if he knows the correct technic.

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In all forms of tubal pregnancy before the end of the third month, before or after rupture, unless there is a great accumulation of blood in the abdominal cavity, the ruptured tube may be removed per vaginal incision with nearly perfect results. Of course it would not be the correct thing to attempt to complete an operation for intraperitoneal rupture in extrauterine pregnancy per vaginam where the abdominal cavity is filled with blood, but vaginal incision is often of value even in these cases. It is well known that the primary hemorrhage is sometimes so extensive as to result in shock that, for the present, contraindicates celiotomy. In these cases the custom has been to temporize until the shock may have been sufficiently combated to justify celiotomy. But often, just as the pulse becomes well perceptible, secondary hemorrhage speedily causes death. In these cases secondary hemorrhage can be positively prevented without materially endangering the life of the woman by increased shock. If she is too feeble to bear an anesthetic, then a vaginal incision may be made without it, the ruptured tube pulled into the vagina, clamped with a small forceps and left in the pelvis until the patient is prepared for a celiotomy.

During the last four years I have operated per vaginam many times for extrauterine pregnancy, all the patients having recovered without a complication or bad symptom. My experience and observation justify the belief that most of the objections now urged against vaginal hysterectomy are nearly identical with the objections urged against this method by the Paris surgeons when first practiced by the late Péan, but it is well known that these very men are more enthusiastic than was Péan, their objections having gradually faded away as they watched the results of the work of this great surgeon, and the results of operations performed by themselves. They believed then, as many of our surgeons believe now, that there is no conservatism in surgery per vaginam, while the most earnest advocate of the infrapubic method knows that by this method he can perform more conservative surgery than by any other method. If he can not positively decide whether one or both tubes should be removed, an exploratory operation is demanded; and what could be less dangerous in pelvic surgery than a vaginal incision into Douglas' pouch, through which the structures around the uterus and up to the pelvic brim may be examined, adhesions separated and the ovaries and tubes brought into the vagina, removed, if necessary, or, if not enough diseased to justify removal, treated after any approved fashion, returned into the pelvis, and the incision sutured, with a mortality that is *nil*, and with no scar nor danger of hernia. Theoretic arguments against any method of operating can not be of value when disproved by intelligent experience and observation. I have been frequently told that it is impossible to remove the appendage through a vaginal incision, or to remove the uterus without the use of speculums or retractors, without endangering important organs. But of what value is this when I am constantly doing this work without meeting with any of the dangers complained of? I do not recognize as a fact that the uterus is an important organ after the ovaries and tubes have been removed, but there are instances where it should not be removed. In these cases the patients may often be restored to health by treating the adnexæ through a vaginal incision.

The formation of abscess in post-puerperal infection may be prevented if diagnosed in its incipiency. If infection be confined to the cellular tissue in the folds of the broad ligaments, the inflamed area may be drained by vaginal incision and separation of the folds, without opening the peritoneum, but usually the inflammation will have extended to the pelvic peritoneum, and then the pouch of Douglas should also be opened and all adhesions separated, and in either event the infected surfaces should be kept apart by placing gauze, to which may be added a fenestrated gum tube to insure perfect drainage.

In operations for removal of pus in the pelvis, and its associated pathologic condition of structures, it is unnecessary to consider its etiology, the treatment being nearly identical in post-puerperal infection following labor or abortion, or gonorrheal infection, or in cases where we find pus caused by the streptococcus, the staphylococcus, or gonococcus, etc.; but where the infection is the result of the germs of putrefaction the treatment must vary. Pus in the pelvis or the tubes or ovaries can usually be treated from below, and more can be accomplished per vaginam than by abdominal section, except the separation of an over-layer of adhered intestines, and this should not be interfered with from either below or above. The cases in which the complications cause a great mortality in abdominal section nearly all get well after an operation per vaginam.

The statement often reported that after vaginal hysterectomy the vagina is made shorter and its secretions interfered with is not correct, for I have in many cases carefully examined to decide this question, and the proof is absolutely conclusive.

WHAT BECOMES OF PATIENTS AFTER VAGINAL PUNCTURE AND INCISION?[*]

BY FERNAND HENROTIN, M.D.

CHICAGO.

A paper, bearing the above title, was announced to be read before this Section by Dr. Joseph Price of Philadelphia. I am sure we all regret the inability of Dr. Price to be present. These remarks are intended as a practical reply to his question, rather than as an exhaustive article on vaginal vs. suprapubic incision.

Many years ago I became convinced that, excepting in very rare and unusual cases, puncture of the abdominal cavity for inflammatory conditions was unsurgical. I accordingly began to make use of exploratory incisions, which permitted the proper inspection of the parts affected, avoided the dangers of the blind puncture and allowed drainage, the latter becoming a safeguard or a means of treatment. I have learned to recognize the value of a vaginal incision over a vaginal puncture, when the abdomen was opened by this route.

About five years ago, after having had considerable experience, I published a summary of my operations, the results of which had been very gratifying. The methods I then advocated were at once adopted by many surgeons, and the best proof of their value is the fact that at the present time vaginal incision is being employed by a large majority of the surgeons in this country, and its merits are recognized by all but a very few.

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ome surgeons seldom employ this method, but you may ount on the fingers of one hand those who do not admit at in a certain proportion of cases of pelvic suppuraon a cure will be more certainly or safely effected by a ginal incision than by an incision made above the ubis.

At that time I did not, and neither do I now, claim at vaginal incision was original with me or that it ad not frequently been done by others, but I emhasized the fact that it was a rational and satisfactory rgical procedure and also mentioned the authorities ho had employed the method with success. As vaginal ysterectomy had been assailed, simple vaginal incision as also attacked, but they are now both recognized as perations of the greatest value. Sometimes, when I dvise the employment of vaginal incision, I acknowldge that I have made a mistake in not stating some f the conditions for which it is adapted. Let it now, erefore, be understood that vaginal incision is probbly harmful in the treatment of sore throat, pneuonia, acute gastritis, urinary and biliary calculi, and at it is of no great value as a means of cure in a host f pathologic pelvic conditions in women. In the ajority of instances incision through the vaginal vault merely a surgical method of opening the abdominal avity to reach an intraperitoneal disease, and, like a uprapubic abdominal opening, it depends on the surical skill and judgment of the operator whether a mere xploration or a definite surgical operation is made.

Allow me to state plainly some of the conditions for hich vaginal incision is especially adapted, and then will leave you to judge without prejudice or bias beause of your suprapubic sucesses, whether every-day ommon sense does not seem to indicate that in such ases the vaginal route is rational and the method of hoice.

If a woman has a capacious vagina surmounted by an mense abdomen piled up with intraperitoneal as well s extraperitoneal adipose tissue; if well-defined pelvic isease can be felt distinctly two inches from the vulva, ut can only be indefinitely shadowed by the superimosed hand above the pelvis; and if experience has aught you that an incision will cure the disease, is it ossible for you to become convinced that it is proper work laboriously in that huge cavity to reach an abcess the size of an egg which you can feel at your nger's tip in the vagina, knowing that during your anipulations the abscess may rupture and that you ust cleanse the cavity completely and with a due realiation of the constant danger of infecting the whole eritoneal cavity? Or, if you have a patient 65 or 70 ears of age, with a weak heart, and you feel a semiuctuating tumor, and you observe, after a small cut hrough the posterior fornix, evacuation of a small varian cyst through this opening, pulling out of the yst wall and ligation of the pedicle with fine catgut, hat on the next morning the patient refuses to beieve that any operation has been performed and can ardly be prevented from getting up, can anyone make ou believe that the operation has not been ideal in its esults and that vaginal incision has no place in pelvic urgery?

These operations are constantly being performed by urgeons the world over, and if you do not recognize he propriety of vaginal incision in such well-defined ases as have just been outlined, you do not give your atients the benefit of modern gynecology. It may be aid that I have described extreme and unusual cases. This may be true, but by commencing with the plain cases I can better demonstrate the advantages of vaginal incision, and in an unmistakable manner. If these patients had been allowed to continue without treatment, after a time their condition might have been such that it would be infinitely better to operate on them above the pubes.

It is my intention to demonstrate that vaginal incision is not advocated as the only means of curing such forms of disease, and to indicate that what becomes of the woman after vaginal incision depends on the judgment, diagnostic skill and ability of the man who makes that incision. Would not the same rule hold good concerning the future of the patients of the surgeon who makes the abnominal incision? The rapid-fire guns of the gentlemen who have such dread of the vagina are particularly directed against our efforts to effect a cure of septic pelvic disease especially of the suppurative type. I will not take up your time by going over the already well-outlined arguments in favor of vaginal hysterectomy as a curative measure in properly-selected cases of serious infectious disease.

The gentlemen who do not realize at this time the immense value of this procedure are proper subjects for commiseration, for the surgeon who proposes to keep in the advanced ranks of the profession has already accepted the situation, recognized the importance of the new departure, and has perfected, or is perfecting, himself in the technic necessary to acquire satisfactory results.

Nevertheless, lest we might be misunderstood, it is imperative to state that no rational man has ever offered vaginal hysterectomy as a *universal* substitute for abdominal hysterectomy or for many other operations which can infinitely better be accomplished through a suprapubic opening. It should also be frankly acknowledged that, because of the perfection attained in conservative pelvic work, the radical vaginal, as well as the radical abdominal operation is less frequently required. Personally I take pleasure in putting myself on record as being of the opinion that ablation and resection of pelvic organs, short of hysterectomy, are better accomplished through a suprapubic opening, at the same time reserving the propriety of using the vaginal route in a small minority of well-indicated instances, even in these cases.

However, I desire at this time to speak of simple incision in suppurative cases. We have been informed by experienced gentlemen—few in number, however—that the operation is incomplete and leaves behind diseased tissues, and that they are often called on to operate on uncured patients who had previously been subjected to vaginal incision and drainage. It must be remembered that such statements simply mean that the primary operation was not properly indicated or that it was not properly performed, or that the first incision had served its purpose, had possibly saved the patient's life and that both the first and second operations were necessary and advisable as presenting the best and safest way for the recovery of health.

As a result of a very large and ripe experience and knowledge of the subject-matter, and with a very strong predilection in favor of suprapubic work, in which I trust I may be pardoned for saying I have achieved most satisfactory results, I am more than ever convinced that vaginal incision properly indicated and properly performed represents the ideal of perfect and conservative surgery, for no surgery is ideal unless cosmetic, and conservative as to function. It always depends on the same presentation of indications. Vaginal incision will not cure sore throat nor will it cure many old pus-tubes or ovarian abscesses unless accompanied by ablation which is almost always better accomplished from above.

The following is an elementary illustration of the position and value of vaginal incision in pelvic suppuration: Pus in the pelvis is found either extraperitoneal, in the organs beneath their peritoneal covering, or intraperitoneal, surrounded by exudate, or both. In the large majority of cases the infection comes from the outside, the primary focus being the endometrium or the cervical tissues. After the infection extends beyond the uterus, its most common expression of definite disease is in the formation of pyosalpinx or ovarian abscess, and intraperitoneal forms of suppuration are almost constantly secondary to these.

Knowledge of the pathology of the development of pyosalpinx has demonstrated that it is essentially a subacute or chronic disease. When the patient reached the operating-table the walls of the tube are wholly diseased, and the gonococcus to which we know it owes its origin has penetrated its walls, and even the muscular walls of the uterus are not always free from these bacteria. It must then be evident even to the merest tyro in gynecology that unless the tube is completely removed the patient is not likely to recover her health. For entire removal of the disease the tube should be removed up to the cornu of the uterus. It is difficult to determine whether the ovaries are sufficiently diseased to require complete removal; in fact, we know that frequently the removal of the ovaries is not necessary. No matter what claim may be made by some advocates of vaginal operation, good sense indicates that we can remove such tubes most satisfactorily and do better conservative work through a suprapubic incision.

Occasionally, if we can be absolutely certain that the disease is of comparatively recent date, if the tube does not feel too hard and if it is situated and adherent low down in Douglas' pouch, it may be incised through the vagina and cure may follow, but the suprapubic method is preferable in nine cases out of ten.

Ovarian abscesses may be clinically classified as of two varieties—primary and secondary. The secondary variety usually follows salpingitis. An infected tube becomes adherent at its abdominal ostium to the surface of the ovary; the ovary suppurates and tubo-ovarian abscess results. The tubal abscess may, however, gradually drain into the ovarian abscess, and although the tube will probably never entirely recover, it may become small again, and to a casual observer may appear healthy and the ovarian abscess seem to be primary. The removal of the ovarian abscess may be demanded. If the abscess is adjudged to be old, if the walls are hard and resistant, and especially if there is the least evidence that the tube will require removal, as it often does, the work may be better and more perfectly done through an abdominal incision. If, however, the abscess walls feel soft, the disease is rather recent and its location favorable, and if the tube is small, a skillfully performed vaginal incision may completely cure the patient without removal of the ovary and with very slight trauma.

Primary ovarian abscess results from infection of an ovary through the lymphatic or the blood channels, usually by the streptococcus or the ordinary bacteria of suppuration. It is usually a very acute disease accompanied by fever, and is generally caused by miscarriage or by unclean operations around the cervix. If incised in its incipiency during the first six or eight weeks, and if the operation is properly performed, cure will follow and the result will represent the ideal of modern surgery to anyone who properly understands the situatio and can do the work.

This paper can not be made exhaustive, as it is intended only as an argument and the time is limited suffice it to say that complex and miscellaneous septi collections in the pelvis can be evacuated by vagina incision, and the patients cured. Sometimes the disease is in the tube, sometimes in the ovary, sometime in the extraperitoneal cellular tissue and sometime intraperitoneal and protected by exudate. The resul depends on the discrimination and skill of the surgeon for, if a patient recovers after an imperfectly performe operation, or one based on wrong indications, the recovery is due to the kindness of Providence and not to th surgeon. On the other hand the gynecologist who doe not thoroughly understand what can be accomplished b intelligent vaginal incision belongs to the old school an does not give his patients the benefit of what is certainl one of the simplest of surgery's most perfect cures.

In conclusion, allow me to present this opinion fo your consideration: Of all pelvic diseases in wome which call for operative intervention and opening o the abdominal cavity, probably 25 or 30 per cent. ca be operated on to better advantage through a vagina incision and the remainder through a suprapubic opening; but whichever method is employed, what become of the patient after either incision depends, not on th incision per se, but on the characteristics and qualifications of the man behind the knife.

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DISCUSSION ON PAPERS OF DRS. GOFFE, WATHEN AND HENROTIN

DR. H. A. KELLY, Baltimore, Md.—I have very little to say because if I had written a paper on this subject I should hav expressed myself as Dr. Henrotin has done. He has not uttere a single sentence with which I can not heartily agree, and think he has taken the right view of the matter. It is a curiou thing how this subject has changed; how physicians hav altered their views in recent years, and to those who are onl watching us superficially, it may seem that many of us ar traveling in a circle. It is but a few years since that illustrious and very charming gentleman, Segond, was over her from Paris, and addressed us in New York at the meeting of th American Gynecological Society. At that time most of us wer rather rabid for the abdominal method of operating, and h for the vaginal. We uttered the reproach that the vagina operation was done in the dark, while the abdominal was don in the daylight. We all agree that in every method of operating we must see what we are doing and control the conditions the accidents that attend operations, hemorrhage, adhesions sepsis, etc. I agree heartily with Dr. Goffe in saying that, al other things being equal, the vaginal operation is to be preferred. If he can show me in all cases, all other things bein equal, that the difficulties of getting at the structures, of handling them and of treating them conservatively are the same, will give up the abdominal and follow the vaginal operation At the present time I am an advocate of both methods, and m position, as well as I can define it, is briefly this: I make jus the exception that Dr. Henrotin makes for diseases which involve the structures in the upper tract. He goes through th abdomen in those cases, and so do I, because we can get at th diseased mass more quickly. We have a large open passag through which we can attack the diseased part, and we can d all kinds of extremely delicate operations without tearin structures, consequently the abdominal route is to be preferre to the vagina, for affections located in the upper part of th uterus. I prefer the abdominal route for all conservative operations. I hardly think one can do as good conservative wor in operating by the vagina as through the abdomen. Som years ago the vaginal sectionists, who always took out th uterus, criticized me for not doing the same thing, and som of my visitors on the other side of the water, when they sa me operate by the abdominal method, were itching to get at th uterus which I would leave in with an ovary or half of a tube The situation is this: Our vaginal sectionists must necessaril work through the pubic arch. Let this drawing represent th pubic arch (illustrating); they work up through the vagina and do so more or less at a disadvantage. This is particularl ie in many cases if the structures are more or less fixed or und down by inflammatory adhesions and infiltrations to the rrounding tissues. Given a big hole through the abdominal ll, and it needs but little demonstration to show that an erator who is not skilful is going to do better work. Having d that, I am going to make an exception. The lower route— vaginal—is *par excellence* the route for the treatment of vic abscesses, as Dr. Henrotin has so beautifully described. e of the first gynecologic cases I ever saw, in 1883, was cured this way. Since then, and very earnestly and persistently thin the last ten years, I have been following the vaginal thod of treating pelvic abscesses. In my last case I operated just before leaving home, I opened the abdomen to know at I was doing so as to make my drainage perfect and to pty the sac rather than run the risk of getting into the peri-eal cavity. I mean by pelvic abscess those common abscesses ated in the ovaries, tubes, or both ovaries and tubes, not the er forms of abscesses located in the cellular tissue. I mean commonest abscess, of which the gonorrheal abscess is the pe. The vaginal route is the best for this class of cases.

I am going to tax your patience by giving a few statistics. wrote to 100 of my pelvic abscess patients, treated in this y, and received replies from 59 operated on between 1893 and 97. Among these 59 patients there were 38 who were in good ndition; 13 reported themselves as absolutely well and free m all symptoms; 10 had some degree of abdominal discom-t; 5 some menstrual pain; 5 more had some menstrual and dominal pain; 2 complained of rectal pain and tenesmus; 3 nplained of constipation, and 9 complained of having experi-ced but little improvement in their symptoms; 5 more ex-essed themselves as having experienced no improvement. out these 9 in the category of ill results from the operation. ere were 3 deaths from uremia, 1 from general infection be-use the operation had not been performed in time. A primary ploratory incision was practiced 13 times; recto-vaginal tula occurred 4 times, soon after rupture into the rectum, evious to the puncture. The connection between rectum d vagina healed spontaneously in three cases, and one case s unhealed. I found it necessary to open at the site of punc-re in 2 cases, and so on.

This is not a perfect showing, but remember that I have ken these from cases brought in to me on litters; I have oper-ed on women in a desperate condition, and, as the records will ow, some of them were in a dying condition. Two of them re uremic. It was not a question of choice of method in these ses. I could not have done anything else, as they would ve died instantly on the table if I had opened the abdomen d attempted to enucleate the abscess. In the worst cases pelvic abscess we must adopt the vaginal route, puncture and ainage. Then, bear in mind, if anything further is to be done, the patient complains of sequelæ, has trouble from adhesions, e is in better condition at a later date to have the abdomen ened and the diseased structures removed, and a more thor gh operation done.

Dr. Joseph Eastman, Indianapolis, Ind.—It is very embar-ssing to be called on to participate in a discussion when Dr. enrotin has incorporated my views in his paper, absolutely, thout an exception. He takes the ground which I think we ould all endeavor to take, that is, keep clear of going into the domen either by the vaginal or abdominal route with some ed, cut-and-dried method. When asked how I would treat fibroid tumor, I would answer, what kind of a tumor is to treated? This would have reference to the kind of pedicle e tumor has. So, in a given case, in deciding whether to opt the vaginal or abdominal route, it is well to consider at we are going after and how we are going after it; in what y we expect to find it, and what to do with it when we do d it.

I have some peculiar views in reference to dealing with mors and abscesses by the vaginal route. For some fifteen ars I have done a large amount of work dealing with dis-sed conditions within the pelvis, and in so doing I prefer to ve the patient in the Sims' position, not simply lying on the le with knees drawn up, but having the patient lying on her som so that the coccyx is on a higher plane than the urethra; en, by dilating the rectum and using a short speculum, I tract the perineum and get a much better view, making the ructures behind the uterus vastly more accessible than I could by using a position where the symphysis pubis would be in y way. I am firmly convinced that whoever attempts to deal ith diseased structures by the vaginal route, as Dr. Henrotin s indicated, will require a much larger experience before he n work satisfactorily, than by the abdominal route. One ay, in the abdomen, in a patient not too fat, deal with pelvic scesses, diseased tubes, with much less experience than he uld venture to do by the vaginal route. Not all abscesses are cured by vaginal puncture and drainage, and, as Dr. Kelly suggests, we may have to open the abdomen later and break up adhesions. I find it necessary to drain ovarian abscesses, and I have repeatedly removed pus tubes of considerable size through an anterior incision between the uterus and bladder, and I find, with increasing experience, that I can do this in a larger percentage of cases than formerly.

I will summarize simply by saying that both routes have their advantages. The elder Byford wrote an article, which I read, in which he spoke of opening abscesses through the vagina and through the rectum, and dilating them freely for the purpose of securing the best possible drainage, and at that time reported very satisfactory results. So the Frenchmen have not taught us so very much. They have only called our attention to the advantages of operating on these cases by the vaginal route.

If any of you will have your patients assume the Sims' position in these operations, you will readily see the advantage of it. It is not uncommon for me to have my patients assume the knee-chest position for a little while before they assume the Sims'; in that manner the coils of ileum gravitate better, and the structures, which would otherwise fall down and interfere somewhat with one's work, are drawn forward out of the way, I have no difficulty in operating on patients in the Sims' position.

. Dr. J. B. Murphy, Chicago—The part of this discussion which I wish to consider concerns the infective lesions in the pelvis, and I am sorry that Dr. Kelly has left, as I would like to learn from him what pathologic conditions he included under "pelvic infections;" does he mean abscesses of the tubes or ovaries, the variety following gonorrhea, including with these the cellular, peritoneal, tubal and ovarian suppurations occurring post-abortive and post-partum from infections by the vaginal route? Does he include the same varieties that Dr. Henrotin includes?

Dr. Henrotin—I believe the ground was taken that pus tubes were better operated on by the abdominal route, and that in dealing with other forms of infection or pathologic conditions it was better to operate by the vagina.

Dr. Murphy—We want to cure the patient by one operation, if possible. We must therefore ask, what are the pathologic conditions induced in the tubes by gonorrheal infection? The changes produced in the tube are similar to those produced in the male urethra by the same disease. Gonorrheal infection tends to retention of secretion in the tube: 1, by edema of the mucosa, and, 2, by ulceration, stricture and valve formations particularly within an inch or an inch and a half of the uterine cornua, retention abscesses, dilatation and chronic suppuration of the tube are produced. If we drain the tube by the vagina, we have a pathologic condition of the tubal mucosa remaining with a stricture at the uterine and a closure at the fimbriated end, from inflammatory adhesions. These are the results of gonorrheal infection and prevent the natural drainage; the tube must therefore refill after the communication with the vagina has closed, and the result is retention of secretion and accumulation of the products of infection. Ovarian abscess is not often associated with gonorrhea, but is more frequently the result of streptococcus or staphylococcus infection following the puerperal or abortive period. Ovarian abscesses are not common lesions; we do not see many uncomplicated ones. Suppuration of the ovary can be cured by drainage, if the wall is not a cyst wall. If it be a cyst wall, lined with epithelial cells, then drainage is not sufficient.

I am particularly pleased with the position taken by Dr. Henrotin in considering this subject. After all, the conclusion we reach is about this: We select the abdominal route for those infections involving membranes lined with epithelial cells; if the infection be of an acute streptococcic or staphylococcic type, merely drainage cures the inflammatory process. We must distinguish between the types of infection. In abscesses in the cul-de-sac of Douglas, in abscesses in the broad ligament, drainage by the vagina is indicated. In the other varieties of infection, the abdominal route is preferable.

Dr. W. E. B. Davis, Birmingham, Ala.—In the main I indorse the position that has been so clearly and fairly outlined in the paper of Dr. Henrotin. When double salpingo-oöphorectomy is necessary, the choice of operation will depend largely on the decision as to the disposition of the uterus. If the uterus is to be removed in such cases, the vaginal route could be adopted with advantage in a good proportion of operations. Fortunately, that is not necessary, and hence the abdominal operation is preferable, as the aid of positive sight is given, thus affording a wider field of operation and an opportunity for conservatism.

It should be the aim and pride of the surgeon to preserve everything consistent with thorough surgical work, and not to sacrifice important organs because it can be done with only a small mortality. We are told that the uterus has no function after the removal of the appendages, but this has not been demonstrated; while, on the contrary, we know that the sexual life of the woman is very much better preserved by leaving the uterus, and that the mental effect is also much better. A slow convalescence, or even a second operation, is preferable to its removal, unless very much diseased. It is a reflection on the correctness of the reports of complete recoveries of such a large percentage of cases by many most excellent surgeons, when the uterus was not removed, to accept the argument now being used in favor of hysterectomy in all these cases.

Vaginal incision for the drainage of pus in the pelvis, not confined to the tubes and ovaries, has been practiced for a long time with very gratifying results. This procedure is so old that it is hard to say when it was not resorted to. Such cases would recover, almost without exception, from the immediate attack, and a large number recovered completely and afterward bore children. This result was due to the drainage of the tube or ovary through the peritubal or periovarian abscess, just as cases of appendicitis are cured by the rupture of the diseased appendix, producing an abscess, which is evacuated by the surgeon, the appendix being drained through the abscess. In cases of abscess from lymphangitis and phlebitis this treatment was all that was required, but cases of abscesses due to the tube or ovary were not all entirely relieved, due to the fact that the pus-tube or ovarian abscess was not satisfactorily drained. More recently, pus-tubes and ovarian abscesses have been incised and drained through the vagina with permanent recoveries in a good proportion of cases. These are the very cases where the vaginal operation and hysterectomy have been recommended so highly by the French surgeons. Yet a large percentage of these cases can be relieved by vaginal incision and drainage. If not relieved, the patient's condition will be made better by getting rid of the pus, and later on an abdominal operation can be done and the patient cured by the removal of the appendages —and perhaps from one side only.

The French surgeons, in some cases, when unable to remove the diseased tubes and ovaries after hysterectomy, have been contented to open the masses containing the diseased appendages, and to pack with gauze. The drainage in such cases has brought about complete cures. The same result could have been accomplished without the removal of the uterus, by vaginal section and the breaking up of adhesions, with drainage. I would not be misunderstood as believing that all cases can be cured by incision and drainage, but so large a percentage can be relieved without the loss of the uterus and adnexa, they should be given the benefit of this conservative procedure before more radical measures are resorted to. Especially should this be done in young women, to whom the loss of the appendages and uterus means the loss of so much that is necessary to their happiness. This treatment has been highly commended, and my own experience with it has been so satisfactory that I am convinced of its great value and the necessity of its more general adoption. Gonorrhea cases are not amenable to this method of treatment.

Dr. Willis G. Macdonald, Albany, N. Y.—I have listened to this discussion with interest, and I might say also with comfort. I do not, at the present time, feel that my own practice in regard to this subject can be taken as a guide. A few years since I found my opinions were diametrically opposite to those held by Dr. Henrotin. As the years have gone on I find that we are coming nearer to an agreement, particularly in that class of cases of which Dr. Kelly has spoken—cases that are admitted into large hospitals and are brought in on litters, women with temperatures running almost anywhere, and with pulses running up to 140 or more, jaundiced, and profoundly septicemic. In such cases we are frequently able to make an incision, open up the abscesses, and do a life-saving operation, which in a large number of instances is followed by a permanent cure. This is not so, however, in all cases; but we get patients into a condition where, after three weeks, the profound symptoms of septicemia have passed away, and we are then able to go in from above, clear out the old abscess cavity, remove the diseased appendages, and effect a cure. Such an operation, undertaken in the first condition, would inevitably lead to a fatal result. Out of some little experience in dealing with pelvic abscesses, I may say that our practice in Albany for a number of years has been primary puncture, or puncture with incision, and some ten or twelve years ago Dr. Clinton Cushing of San Francisco presented a method for attacking these abscesses which so influenced me that my colleague Dr. Vander Veer— and myself continued the method for some little time, but within the last five years, instead of making puncture with any form of dilating trocar, we have made an incision with scalpel or scissors opening through the cavity, and we have had no occasion to regret this method of procedure. I do not mention as an argument against vaginal puncture or vaginal incisio because a certain number of cases must be operated on secon arily through a higher incision. In chronic cases in which have abscesses showing a disposition to reveal old pus tube with many adhesions to the intestine, for my own personal co fort I make a free abdominal incision, believing that we can more thorough and safer work for the patient than we can the vaginal route. It seems to me that the more experience have in this direction, the more we are coming to apprecia the value of the vaginal route in treating certain of these co ditions; and that which five years ago seemed to some of not to be good surgery we are to-day quite willing to indorse.

Dr. Charles P. Noble, Philadelphia—This subject has be so thoroughly gone over that I shall confine myself largely my own work along this line. The first point I wish to menti is "vaginal puncture." It seems to me that this is an unfo tunate term, because while Dr. Kelly uses the term, we a know that these abscesses are not merely punctured, but are i cised and well drained. At the same time, I think the nan gives a false idea to the profession in general, and those wl perhaps are guided by Dr. Kelly's nomenclature, make a me puncture instead of a good incision. I am a firm believer vaginal incision for the treatment of certain pelvic abscesse but am not a believer in vaginal puncture; in other word I believe we ought to make a proper selection of cases for t vaginal operation, and the cases which are best suited for th method are those mentioned by Dr. Kelly, that is, those patien that are brought to the hospital extremely ill; they have be in bed for a long time; they are septic, with rapid puls and any abdominal surgeon of experience knows perfectly we that some years ago, when he had to do abdominal section those cases, a large percentage of them died, and the same cas if treated by vaginal incision, will almost all recover. have treated fully fifty such patients in this way, with on one death. If the same number had been treated by an a dominal operation, I am sure 20 or 30 per cent. of them wou have died. In addition to these, there is another class which, take it, Dr. Henrotin believes in draining, and that is the pue peral ones. If the pus is in the broad ligament, vaginal i cision is all that is necessary to effect a cure. When we ha pus-tubes in puerperal cases, if the drainage is well done t patients get well, and a good percentage of them afterwa have babies. I recently reported many cases of this kin Having stated that I am an ardent advocate of vaginal se tion in this class of cases, I must say that *in general* I am equally ardent advocate of the abdominal as against the vagin operation. It seems to me that to those who have had a lar experience, the advantages are so great that I am alwa surprised at the ingenuity of those who resort to the vagin method and are obliged to overcome these great difficulties.

The objections that were offered by Dr. Goffe must ha simply a local application. I have done abdominal operatio for some years, and I have yet to see the first of my patien who objected to an abdominal scar. While we should be seriou in a medical debate, at the same time, as a matter of fac woman's dress has not so altered that there is any occasion f her to show her abdominal scar, and this is a sufficient answ to such an objection.

Hernia we all hear much about and see very little of. the best of my knowledge, I have had but four hernias in s years, following all of my operations. The percentage of herni becomes very inconsiderable if a man follows a careful tec nic.

The objections to the abdominal route, referred to by D Goffe, are comparatively trivial, and when we contrast the with our ability to deal with intestinal adhesions, to take ou the appendix when involved—and it is involved in a defini percentage of the suppurative cases—the advantages outwei the possible development of a hernia in the abdominal sca The men who do vaginal work, when they operate for som inconsiderable trouble, such as a retroversion, sometimes ha an ugly and concealed hemorrhage, and they have to do hysterectomy or else the patient bleeds to death. Dr. Henroti told me of such a case that occurred recently in the practice one of the prominent advocates of this method. Instead of bein converted to employment of the vaginal route, by observing th work of its advocates, this has always had the reverse effect o me. Furthermore, it requires much courage to deal with th graver pathologic conditions through the vagina. Dr. Gof referred to having removed a ten-pound fibroid tumor throu the vagina. When we stop to think that a full-term baby onl weighs seven pounds, and that a ten-pound fibroid is about large as the largest baby, to cut up the tumor for the sake taking it out through the vagina, when it can be much mor easily removed through the abdomen, calls more for admiratio the ingenuity on the part of vaginal sectionists than it eals to us to imitate their example.

Dr. J. Henry Carstens, Detroit, Mich. Dr. Noble has ted one side of this question, namely, that puerperal ab- sses, when treated by vaginal puncture and drainage, are olutely cured. We have, however, pus tubes which are not ed, and we ought to try and distinguish between the two in erence to prognosis. If we have a puerperal abscess in broad ligament, we can almost guarantee that the woman l be restored to health without any further operation n vaginal puncture and drainage. If we have a pus-tube ch has dropped into the posterior cul-de-sac, which we drain order to give the patient a chance and to guard against sep- we may afterward have to operate, and we ought to make rognosis accordingly.

do not believe in operating on cases of extrauterine preg- cy by the vaginal route; I think the abdominal route is correct one, although once in a while one can do good work such cases by the vaginal route.

here is one other point I desire to call attention to, that there are certain cases where I think vaginal hysterectomy he proper operative procedure. Where you have pus tubes t may be quiescent, but with them you have a retroverted lacerated uterus, a degenerated mucous membrane, vaginal charge, with uterus, ovaries, tubes, everything, adherent one solid mass, what are you going to do? Are you going to rate and sew up the lacerated cervix? Are you going to ette the uterus, or open the abdomen, take out the ovaries tubes and make a suspension of the uterus, or will you ke a vaginal hysterectomy? It seems to me that there is exceptional case where vaginal hysterectomy, removing the rus, tubes, etc., altogether at one time, will produce less ck and bring about a more permanent result than any other hod. It is *the* operation for women who are near the nopause. The age of the woman must be considered, and if s a woman near the menopause, you can make a vaginal ion and remove the uterus per vaginam; but if you have a ng woman to deal with, I hold that you should make an ab- ninal section and do everything you possibly can to save e parts of her generative organs and not unsex her.

Dr. Emil Ries, Chicago, took part in discussion at this nt, and with the aid of blackboard sketchings dwelt on the tomy and pathology of pelvic diseases in women. He dis- sed at length both the abdominal and vaginal routes in deal- with intrapelvic pathologic conditions, and expressed the nion that no one method is to be preferred for all cases. sometimes resorts to the vaginal, and, at other times, to the ominal route, and, if necessary, to the combined method.

Dr. Henry O. Marcy, Boston—I am sure the Section is to congratulated on having such a free and spirited discussion this important subject. Nearly thirty years ago the pro- sion of two continents was astonished by a contribution this topic by the until then obscure surgeon of northern rgia, when he reported, for the first time, his work to the lical profession of twenty-seven cases of vaginal operation the uterine adnexæ. If the lamented Robert Battey could e been here to-day he would have specially rejoiced, since it uld have shown him that the fruitage of his work had not en on barren soil. Our French confrères have taken up the k that Robert Battey left, so admirably done, and if the nger men of the profession will turn back the pages, they l read, with much profit, the wise, judicial descriptions and ice that he gave on pelvic operations on the uterine adnexæ. m glad to feel that we have come to a judicial opinion, a t of consensus of judgment, as it were, as to how we should l with pus in the pelvic basin. I can emphasize every word each of the speakers in this direction, and Dr. Henrotin sets th my ideas as clearly as if they were written for that spe- purpose.

Coming to the first paper, that of Dr. Goffe, I must take cer- n exceptions to the remarks contained therein. We should use, far as possible, our common senses, and the common sense of izing touch and sight means so much to us. I have removed our-pound uterine tumor by the vagina, and I have carried blistered thumb and finger as the result for a week. It is easy work, and if it is not safe to the patient, it is certain- not always wise. Within the abdominal cavity we can do endid plastic surgery on the peritoneum; and in this, at st, we have a great gain over the work done by the vaginal te.

n reference to hernia, it has been said that 10 per cent. abdominal sections are followed by ventral hernia. I have en careful recognition of my last thousand cases of laparot- y, and I find, without a single exception in all strictly asep- work, that I have not had ventral hernia. This depends on closure of the abdominal wound in layers.

So far as the scar is concerned, if the work is done with surgical tact and skill, at the end of a few months there is very little trace of where the work had been done. I consider it rather hypercritical to call attention to the damage done to the abdominal wall; with proper care it can be reconstructed safely, and the patient remain as well as if she had not been subjected to operative interference.

Dr. Charles A. L. Reed, Cincinnati, Ohio—I have rarely had an opportunity of listening to a symposium of papers and of discussions so instructive as those which have been presented to-day. The idea of such an arrangement is a very happy one, because it tends to give expression to the present status of two opinions which can not be recognized as essentially antagonistic, but, in the light of the discussions to-day, are often supplementary and co-operative. But a few years ago the edict came from England, that all suppurative conditions within the pelvis were to be attacked by the abdominal route, and there came back, as it were, an echo or protest from France, or, perhaps better, a proclamation that all such conditions were to be dealt with by the vaginal route, and we have finally been able to arrive at that philosophic position whch enables us to recognize that there is perhaps, after all, a soul of truth in things false as there is a soul of good in things evil. Now, when shall we adopt one method, and when shall we adopt the other? To translate those conditions into words is to defy the possibilities of the vocabulary. These conditions are to be determined clinically and on the spot—determined not before operation is begun, but frequently after the initial steps have been taken. So far, this discussion has attempted to define conditions under which the one method should be employed, and those under which the other method should be employed. There has been a presumption of diagnostic acumen on the part of some of the speakers of which I, at least, do not pretend. When a gentleman stands before this audience, for instance, as the special pleader for vaginal section, and undertakes to tell us exactly under what circumstances it should be undertaken; when he tells us, at least by inference, that he is enabled to determine, even in advanced cases, exactly what intestinal adhesions exist, exactly what complications are to be found higher up in the pelvis; when he informs us that he can tell exactly which of the various varieties of abscess exists, he assumes a degree of knowledge the possession of which I have found to be but rarely demontrated in the regulations of the operating-room of this distinguished operator, or operators. I have had the pleasure of visiting the operating-rooms of several gentlemen who feel that all operations for the class of cases under consideration should be done by the vaginal route. I have seen them relieve the tubo-intestinal adhesions and the ovaro-intestinal adhesions, and the adhesions that were high up; I have seen them eviscerate the pelvis by this procedure, and I have seen patients shortly afterward show fecal fistula that had gone without detection at the time of its infliction. I have seen them operate to control a hemorrhage high up which had defied detection at the time of operation, and I have seen them inflict surgical injuries, as cuts, which have been enumerated by Dr. Noble of Philadelphia, etc. I do not mention these things as an indictment against the vaginal method of operating, but, on the contrary, to show conditions the existence of which demonstrates the fact that this operation should not be selected in all cases; that it should not be adhered to, even after it is once undertaken if high-up complications are found to exist. On the other hand, my practice has been based on the conviction that it were wrong to attempt the enucleation of pus pockets, whether they consist of ovarian or tubal tissue, or whether located in the broad ligaments. I say, I have proceeded on the conviction that it is wrong to attempt to remove these pus pockets in the presence of acute infections in the intensely active stage; in other words, in those stages in which a suppurative process is indicated by an intense leucocytosis or by oligemia which attends this state of affairs. In these cases vaginal puncture is a conservative step and its application may be practiced with benefit. I have found, after making an exploratory abdominal incision, if the tubes and ovaries were not involved, that by using the intraabdominal finger as a guide, and making an incision along the line of Poupart's ligament, opening up by that route and establishing through-and-through drainage, it enabled me to control the pathologic conditions. I have not encountered this condition of blind exploration in the pelvis that some speak of, and I do not understand the force of that reference. In this day of Trendelenburg position and of intra-abdominal illumination and of refined technic, I can not understand why such a criticism should find credence.

Dr. Henry T. Byford, Chicago—It is my duty to say a word in favor of vaginal section as against some of the remarks that have been made, believing, as I do, that it has not been given a good showing. Vaginal section is as yet in its infancy. It is only about ten years since French surgeons began to advocate it. What I shall say will be confined largely to vaginal section without the removal of the uterus, as I have had considerable experience in that regard. I commenced to do vaginal section in the days before we understood asepsis as well as we do now, that is, about ten years ago, when I did not understand how to thoroughly disinfect the vagina. I got infected ligatures and abscesses after some of my first operations, yet my first sixty cases, operated on in this way, all recovered with the exception of one. At that time, and with no more experience than I had had with this particular method of operating, I did not think abdominal section could be compared to it, at least, it could not in my own practice.

I have done about everything, I think, that is done by the abdominal route, on the uterus, ovaries, tubes, etc. But we must choose our cases. We can not remove ten-pound fibroid tumors through the vagina, that are situated high up in the abdominal cavity, yet we can treat some cases of pelvic disease better by the vaginal than by the abdominal route. If the diseased tubes are high up and firmly adherent laterally, we ought not to attempt to do vaginal section and tug at, and perhaps tear off, the cervix in a desperate attempt at the impossible. When the cervix can be pulled forward and the adherent tubes be easily felt, there is an elasticity in the broad ligaments; and the ovary can be pulled down and ligated without tearing it. If the uterine tumor or tumors are small, we can certainly get at them and deal with them through the vagina as well as by an abdominal section. If we make a large abdominal opening, we can work more easily from above, but the consequences are more liable to be grave, and we can not give patients as good assurances of recovery as when we operate from below. Considerable trouble has arisen from the fact that men do not know what cases should be operated on by the abdominal route, and what cases should be dealt with from below.

Dr. Eastman is frank enough to say that he can do better work to-day through the vagina than he did formerly. Others will do better and more work through the vagina after a time. Our ability to deal with pathologic conditions by the vagina, efficiently, comes with increased experience. I venture to say, that one-half or more of the ordinary pelvic conditions, that is, small pelvic tumors and diseased tubes, etc., can be reached and dealt with by the vaginal route.

DR. JOHN B. DEAVER, Philadelphia—I congratulate Dr. Henrotin on the good sound surgical sense expressed in his paper. It is a question largely of discrimination in selecting the route through which to deal with the pathologic conditions under discussion. As to the class of cases referred to by Dr. Kelly, and by one of the other speakers, where patients are brought to the hospital almost *in extremis*, there is no question about the superiority of the vaginal incision under those circumstances. I have repeatedly done these operations without giving an anesthetic, the patient's condition not permitting it, and I have seen them recover.

Coming to the question of extrauterine pregnancy, there was one point made with reference to two sittings. When cases of extrauterine pregnancy are seen early, when bleeding is going on, I would raise my voice against the vaginal operation. Those are the cases that unquestionably call for opening the abdomen in order that we can see what we are doing, and that enables us to flush properly and drain, if necessary. Drainage is necessary in the majority of cases. The cases of extrauterine pregnancy that are seen late, after absorption has taken place, with blood clots remaining in the cul-de-sac, may be suitable for vaginal drainage.

DR. WALTER B. DORSETT, St. Louis, Mo.—Careful consideration of the facts in connection with this subject will convince the unprejudiced mind that our advancement has been very slow in dealing with the class of cases that have been brought up for discussion. For many years I have indorsed and practiced vaginal puncture and drainage in a certain class of cases. Five years ago I read a paper at the Toronto meeting of the American Association of Obstetricians and Gynecologists, in which I used almost the identical words used here to-day, "that in the early cases where we have the cul-de-sac of Douglas filled with pus, we should open the cul-de-sac and let out the pus, and do an abdominal operation at some other time," but sometimes, gentlemen, that time does not come, and the patient gets well without a laparotomy.

I want to further add, and if need be emphasize, that this idea of vaginal puncture and drainage is by no means new. The technic and execution have, in all probability, been greatly improved, but it is a mistake to say that it is a new idea. It certainly seems the most rational mode of handling one class of cases, the class in which we have pus in the cul-de-sac of Douglas, with or without prolapse of the tubes, the tubes being filled with pus, or even when one or both ovaries is the seat of an abscess. By prompt action we can often save the patient an abdominal section, by simply opening and draining the abscess.

DR. F. F. LAWRENCE, Columbus, Ohio—Extremes are dangerous, it matters not whether in gynecologic surgery or otherwise. In dealing with the question of pus in the pelvis, the location o the pus should guide us largely in selecting the particular method of operating for its removal, whether it be the vagina or abdominal route. If we have a freely movable tube, whether it contains pus or blood, whether it be a simple pus-tube or a tubo-ovarian abscess, the vaginal route under certain conditions is imperfect. There can be no question that when pus is located and has burrowed down into the cul-de-sac, and the patient is septic, vaginal incision for the purpose of evacuating the pus and relieving the septic condition is of prime importance, and the freeing of adhesions and of dealing with complications are of secondary importance at that time, but we must not place ourselves in the position, as surgeons or gynecologists of adopting any one procedure to the exclusion of another Each individual case must be a law.

So far as extrauterine pregnancy is concerned, I have seen a number of suppurative cases in which the fetal remains and intestinal adhesions were situated high up, and yet the abscess bulged low down into the cul-de-sac. If we had expected to afford permanent relief by vaginal incision, it would have been an absolute failure.

DR. JOHN M. DUFF, Pittsburg, Pa.—I am glad we had this symposium. It shows a freedom from dogmatism on the part o the members of the ASSOCIATION. It is simply absurd for any one to say that vaginal hysterectomy is the proper method o operation in every case, and it is equally absurd to say that it should never be performed. The conscientious operator will study his case carefully and select the operation best suited to the case in hand.

DR. J. RIDDLE GOFFE, closing the discussion on his part— All the critics have admitted that in desperate cases, when patients are *in extremis*, have pus in the pelvis and need operative interference, the vaginal route is the one to adopt. Why Because the pathologic conditions can be dealt with through the vagina with much less serious consequences than through the abdomen. The same reasoning holds in all cases. I mentioned a variety of cases that have been operated on as a matter o experiment to show what can be done through the vagina. I do not wish to be understood as advocating the vaginal method for the removal of ten-pound fibroid tumors. The tumor I spoke of nearly killed the surgeon in his struggle to remove it But small fibroid tumors can be enucleated through the vagina as readily as through the abdomen. Moreover, I wish to be distinctly understood as saying that in any condition where I can not fully complete an operation through the vagina, I do not hesitate to resort to laparotomy. The vaginal incision is an exploratory one, through which can be learned what the condition is, and if, after careful exploration, it becomes necessary to do a laparotomy, there is no disgrace attached thereto.

I did not go into the technic of the operation. Last year, at the Denver meeting of the ASSOCIATION, I read a paper before this Section in which I did go into the technic. When I speak of vaginal section I did not mean simply puncture in the posterior fornix, but a free incision into the peritoneal cavity and another when necessary throughout the whole length of the anterior vaginal wall, dissecting off the vagina from the bladder for an inch and a half either side of the incision, dissecting the bladder from the uterus, opening up the peritoneal cavity, putting in a retractor as well as the finger, and seeing just exactly what is being done. Through this incision the uterus is anteverted, brought down into the vagina, and pulled away out to the vulva, so that this class of work can be demonstrated to students. The structures are easier to get at than through an abdominal incision.

DR. W H. WATHEN, closing the discussion on his part—The subject has not been discussed in the broad way I supposed it would be. The remarks of nearly every gentleman have been confined to the treatment of pus-tubes, which is only a small part of vaginal work, or diseases of the pelvic organs. I regret that other phases of the subject equally important have not been discussed. I have listened attentively to the remarks that have been made; some of the members have said that surgery per vaginam is not conservative; that when we begin we can not stop. When men talk that way they do not understand vaginal work. Every man who understands how to operate on the adnexæ or uterus per vaginam goes through the vaginal fornix, anteriorly or posteriorly, where he does not remove the uterus; he deals with the ovaries and tubes; these structures can be brought through the small incision into the vagina, and examined by the sense of sight as distinctly as the vaginal wall. This can be done without the use of retractors, t with the finger through the small vaginal opening. If but e ovary is diseased, take it away, leave the other. If they both diseased, remove them, the tubes likewise. If neither diseased, treat them as indicated, return them, and suture e vaginal vault. Is not this conservative surgery?

I believe that nearly every pelvic pus case is amenable to eatment per vaginam; we may cure cases by incision or drain- e, or through an incision, take out both ovaries and tubes they are diseased, and it need not matter whether the pus is e result of gonorrhea, of sepsis, or what not. If you can not efficient work from below, then resort to laparotomy. I especially emphasized the fact that there are many cases in ich we can not operate by celiotomy in extrauterine preg- ncy immediately after rupture, because of the great shock om loss of blood. In those cases where the abdominal cavity filled with blood, we may, through a vaginal incision, and thout further shock, bring the bleeding tube into the vagina, ntrol hemorrhage by applying a small clamp, and, after the tient has rallied sufficiently perform celiotomy and cure her.

Dr. F. Henrotin, closing the discussion. In my paper I ade a plea for discrimination between cases. We are all here help each other, to compare notes, to see of what value we n be to one another in showing the results of our experiences last year's work. We will soon meet again, when we will mpare notes again. Meanwhile, I would give a lesson to one two of the gentlemen who have taken part in this discussion, well as receive some lessons myself. I would like to give Dr. elly a lesson with reference to opening up pelvic abscesses. e said he was afraid, in opening these abscesses, of entering e abdominal cavity, which shows that he does not understand, my opinion, the true manner of operating on pelvic abscesses. a matter of fact, in every pelvic abscess operated on through e vagina, we can do nothing else than to fail to open the dominal cavity. We must always open it. If this is not ne, I do not wonder that some of you do not have good re- lts. I do not like to give figures, but I have operated on more an a hundred cases of pelvic abscess vaginally, and have ways opened the abdominal cavity, making sure that I have oroughly explored the pelvis and thoroughly drained.

CONSTIPATION IN INFANTS.*

BY H. M. McCLANAHAN, M.D.

OMAHA, NEB.

My remarks are limited to a consideration of this con- tion in infants from birth to the age of 6 months. ithin the past two years I have had twelve babies in y care, suffering with constipation, and what I shall ive to say is based largely on the study of these cases. he most important fact to be determined is the true iuse, and each individual case requires special study. he causes in infants are entirely different from those iat pertain to children and adults. Rickets is rare in iildren of this age, although a frequent cause in older iildren. Although carefully looked for, none of the ianifestations of rickets were discovered in any of my velve cases. Want of tone in the lower bowel, due to eakness of the muscular fiber, is probably a frequent redisposing cause; but seldom is it the whole cause. he real causes may be grouped under two heads: 1. ie quality, quantity and method of feeding, and 2, the natomic condition of the colon.

Under the first head nine of the twelve cases may irly be classed; of these nine cases, seven were bottle- ed and two breast-fed babies; of the seven bottle-fed iree were fed on condensed milk, two on Mellin's food, ith milk, and two on milk variously diluted. In all iese cases it will be observed that they were receiving a ood deficient in fat; in some the casein was in excess: i others, those on condensed milk, it was deficient. In ie two breast-fed babies I made an analysis of the milk nd the fat was about normal in both, and the casein reatly in excess. I think the important element in producing constipation was the lack of sufficient fats, and xcess of casein. Of the remaining three cases the constipation began at birth, and persisted in spite of treatment for months; one was a bottle baby, the other two breast-fed; in none of them did the food, however modified, benefit in the removal of constipation; and in these three cases I believe the constipation was due to the anatomic condition of the colon. Prof. A. Jacobi, in 1869, pointed out this as a cause of constipation; even at this day almost no mention is made of it in our text-books. The colon is normally longer in the infant than in the adult, and more loosely attached; in some cases there is no question but that owing to its length it doubles on itself, producing a reduplication of the folds of the bowel with closure of its lumen. This condition presents a mechanical obstruction to the onward movement of the fecal mass. Being a congenital condition, explains why these cases are not amenable to treatment. The diagnosis of this condition must be made by exclusion. In one of my cases, imperforate anus, or some arrested development of the bowel was suspected until a careful examination revealed the true condition.

TREATMENT.

In the first class the question of the diet is of the greatest importance; no arbitrary rule can be given; each case has its peculiarities, which must be studied. The percentage of fat should be increased, and the percentage of casein reduced. The character of the stools should be carefully noted; when light-colored and dry, the casein is to be decreased, and in some cases milk should be carefully peptonized. In two of my cases I found the addition of a teaspoonful of malt extract at each feeding a decided benefit. Correction of the diet however, will not always cure constipation, and a certain amount of drug treatment is necessary. My first choice is for the resin of podophyllin, given in alcohol in doses of from 1/40 to 1/24 of a grain. When the discharges are coated with mucus, phosphate of sodium is an excellent remedy, given in the form of a saturated solution. If a little orange juice is added to the dose when given, the child will take it more readily. Whe there is muscular debility as indicated by tympanitis and flabby muscles, strychnin and nitric acid are the best remedies. In these cases, massage, not only of the abdomen but of the entire body is of decided benefit.

In the second class neither food nor medicine is of much benefit; indeed, cathartics are not only harmful but dangerous. I wish to call attention to the digital examination of the rectum, not only as an aid to diagnosis, but as a method of treatment; with index finger oiled and inserted into the bowel, and gently pressed against the perineum, it is surprising how readily the entire pelvis can be explored; it is possible in this way to reach the sigmoid flexure, and to stimulate the peristaltic action of the bowel. I have no doubt that by gentle manipulation in this way, the folds of the colon can be straightened out. In each of the three cases I succeeded in getting a free movement of the bowel on several occasions. I therefore consider digital exploration of the rectum not only an important method of diagnosis, but a certain plan of treatment as well. In these cases injections should be used daily; as ordinarily given, however, but little benefit is derived from them. I have found a lisle thread catheter passed through a cork, the extremity of which is rounded, better than the soft catheter; this is attached to the rubber tube of the fountain syringe; the catheter is passed into the bowel, say two inches, and the cork surrounding it is pressed against the sphincter muscle; after the water begins to flow the catheter is to be gently pressed on up into the bowel. The colon is distended until the pressure of the water is sufficient to unfold the bowel. I have found from experience that this method of treatment will usually produce a free movement. Cases of this class require a continuous treatment for a series of several months; indeed, one of my cases was 10 months old before it could ever have been said to have a natural movement of the bowels.

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DISCUSSION.

Dr. C. G. Slagle, Minneapolis, Minn.—This question of the treatment of constipation is one of very great importance to every one who practices medicine. I have had occasion lately to look up the subject of constipation in infants and young children, for use in a paper which I was preparing. I was surprised to find how many different causes of constipation were given in the literature; I had never appreciated before that there were so many factors entering into this subject. As the writer has suggested, some of the important factors are anatomical—for example, the length of the colon. The food undoubtedly is a large factor, but it is far from being the only one. I had not previously appreciated how frequently constipation occurred in infants nursing at the breast. Sometimes this is due to some defect in the mother's milk—as for instance some excess of proteids, or a lack of sugar. I have really had the most difficulty in relieving constipation in those infants under a year old who were nursing at the breast. We can manipulate the food more readily in bottle-fed infants, adding possibly oatmeal or something of the kind. Sometimes we can feed them a little sugar water. I have found that one element in infantile constipation is the dosing of infants with astringents, such as carminative teas. We know that these are all astringents, and that it is exceedingly common to give anise and fennel tea, or to dose the little ones with paregoric, or with castoria.

Dr. A. L. Lawrence, Washington, D. C.—Such an important subject as infantile constipation should receive full discussion in this Section. In infancy there is often constipation, alternating at times with diarrhea from an excess of proteids, as just stated. In these cases I have used small doses of essence of pepsin—ten or fifteen drops after nursing. One important point that might be mentioned in this connection is the value of massage, together with the use of oil-paper suppositories. By these means the mother can get the child in the habit of having an evacuation of the bowel at a certain time every day. When early infancy has been passed most children are fed almost exclusively on oatmeal and potatoes, and they very naturally become constipated. A lack of fat, especially in bottle-fed babies, is a cause of constipation. These children should be given more cream or butter. All forms of teas should be strictly prohibited. I hope there will be a very free discussion on this subject.

Dr. J. A. Work, Elkhart, Ind.—In connection with what has been said, I would say that I believe tight-lacing about the abdomen is another factor. We all know that in order to give nature a chance to produce a free action of the bowels we must not interfere with peristalsis—the muscular action of the circular fibers of the bowel. The tight bandages so commonly used on infants interfere with this peristalsis, and so give rise to constipation. I believe we should study more carefully the workings of nature. We are apt to want to do too much for her, and pay too little heed to what she can do without us.

Dr. E. D. Chesebro, Providence, R. I.—I wish to emphasize the statement made by the writer of the paper, that in the treatment of constipation. it is important to look after the quantity of fat in the food. It was pointed out some time ago by Dr. Holt that a certain amount of fat must be passed off in the feces in order to keep the later sufficiently soft. If the food is deficient in fat about all of it may be assimilated and but little or none left for elimination. It is my custom to look after this element, and if the baby is constipated I almost invariably increase the quantity of fat. Usually the results of such treatment are satisfactory. Excess of proteids undoubtedly has a great deal of influence, but lack of fat is a very important element in causing constipation.

Dr. Edwin Rosenthal, Philadelphia, Pa.—Professor Jacobi, when lecturing on constipation in children, exhibits the sigmoid flexure of a child, removed ten or fifteen years ago, which is eight or ten inches longer than in the average child. Dr. Jacobi gives this abnormal length of the sigmoid flexure as the cause of constipation in a great many children, and states that for this reason he prescribes the use of a clyster or enema, before giving medicine. He says that it may be from three to five years before such a child's sigmoid flexure becomes of proper length. In these cases it makes little difference whether the food contains high or low percentages of fat. We should, therefore, consider first the anatomy, and secondly the treatment.

Dr. Harriet E. Garrison, Dixon, Ill.—I wish to call attention to the fact that in nursing babies we are unable to modify the milk very much. If we give very much water it is passed off by the kidneys, leaving the bowel without much water; but if a little saline be added, such as bicarbonate of soda, elimination of the water takes place through the bowel instead of by the kidneys.

Dr. R. C. Moore, Omaha, Neb.—From the discussion of this paper it is very evident that most of the gentlemen here have experienced difficulty in treating constipation in infants. I might say that eight-tenths of the children whom we are called on to see are more or less constipated. Most of us have probably observed that most of these cases of constipation occur in bottle-fed infants. Furthermore, in examining the stools in these children, it will be found that they are not of the normal color; they are decidedly lighter than they should be. These facts should suggest the proper course to pursue. In the first place, if you can feed the child from the natural course, this is the best, but if this can not be done, a wet-nurse should be provided, if possible. If the means of the parents will not allow of this, we must content ourselves with artificial feeding, and must overcome the difference between the mother's milk and the food selected. The gentleman from Washington struck the keynote of this matter when he spoke of the absence of fat in our artificial foods. Old Dr. Meigs of Philadelphia, years ago, suggested the addition of cream to the artificial food, and this practice has proved very useful, and his food is still the standard for artificially-fed infants. He increased the fat in the milk by adding a certain proportion of cream. There is in mother's milk the natural stimulant to the different excretory and secretory organs of the body, and we can, in my experience, supply this artificially by one thing suggested by Dr. McClanahan, and that is by the use of orange juice. If constipated babies having white, lumpy discharges, are fed on orange juice they will be wonderfully benefited. The orange juice stimulates the natural secretion, and instead of the usual light-colored, bird-like discharges, there will be discharges of a natural color and of the proper consistency. In cod-liver oil, according to my experience, we have a most useful remedy in the treatment of infantile constipation. It will not only stimulate the excretory organs, but it will prove conducive to the proper growth and development of the child. Medication, in the way of cathartics, is useless, and, to my mind, injurious. Of course, if, when the baby is constipated, nervous symptoms develop, it becomes absolutely necessary to evacuate the bowel by the administration of a cathartic. At such times it is usually well to give castor-oil. In most instances, however, with careful preparation of the food and attention to the bowels, and the administration of orange juice, very little trouble will be experienced.

Dr. Leonard of Massachusetts—I never like to let an opportunity go by to speak about the feeding of children. About thirty years ago I came to the conclusion that the artificial feeding of children once in three hours was about correct; since then I have thought that three hours was rather too short a time, and that the food should be given in smaller quantity if as often as once in three hours. Attention to this point renders the movements from the bowels more natural, and prevents the evacuation of undigested food of all kinds. I am still of that opinion. I think it is time for us to cease medicating the infant and instead find out what the infant can digest, and the interval which will best suit its needs. Under no circumstances do I find it necessary to resort to any drug or use any mechanical means for the relief of constipation. It is exceedingly important that the food should be proper in character, and also very essential that it should be given regularly. A child will live on good cow's milk, or on milk of very different chemical composition.

Medical Constantinople.—The new medical college approaching completion at Constantinople is the most imposing public structure in the city, even surpassing the new Ottoman Bank. It is located on the Asiatic shore between Scutari and Kadikoi, on an eminence, and consists of an enormous hollow square with eight main pavilions three stories high, and four smaller, all connected with well-lighted corridors. Professors and students live in the second story, and the clinical material is derived from the large military hospital close by. A letter from Constantinople describes the Gulhane Hospital, in charge of Professor Rieder, as a fine specimen of a modern scientific building for this purpose, and the new Children's Hospital as a model in every respect, with a separate building each for diphtheria, scarlet fever, measles, whooping cough, etc.

HYSTERIA IN CHILDREN.*

BY EDWARD E. MAYER, A.M., M.D.
PITTSBURG, PA.

Hysteria in children was first described by Ranvlin, 1748. Before him, in 1681, Lepois had ventured combat Hipprocrates' view that it was a uterine sorder, and heretofore only a female complaint, but had not gone beyond this. Nor did Ranvlin treat the subject in a clear manner. It remained for iquet, in 1855, to show that it did occur in children, d as frequently as in adults. At that time Carter d Brodie had already published their admirable ar- les on hysteria in adults, but they had ignored its esence in childhood. Since Briquet's time, Bourne- le, Baginsky, Tourette, Casaubon, Ollivier, Clopault, cher, Charcot, etc., have enriched the literature on e subject. To-day it is generally accepted that hys- ria is not rare among children, and that as a chil- en's disease it dates from antiquity, as witness the ildren's crusades, the epidemics of chorea magna, e tale of the Pied Piper of Hamlin, etc. But this ceptance has come slowly. In the early 80's, through e work of Seeligmueller, Henoch and Schaefer, Ger- any, and in the last decade America and England, ve followed France.

Briquet claims that one-fifth of all the cases of hys- ria occur in childhood. Jolly confirms this state- ent for Germany. Putnam, Mills and Taylor agree at it is frequent in America, while Sachs, Burr and cobi seem to think its frequency is exaggerated. In is, however, they are in the minority.

It is a fact that the physician of to-day, in this untry, is woefully ignorant of such subjects; that in spensary work, where such cases are most liable to cur, these cases are often wrongfully diagnosed, and at, on account of our want of good statistics, we really ve no way of observing its frequency with us.

That the Anglo-Saxon race is less liable to hysteria an other races is not an entirely wrong statement, t it sadly needs modifying. From what we shall y, it will seem that it is not so much the fault of rth, but of the difference in training. It is an un- niable fact that the Anglo-Saxon more than any her race, understands the value and importance of eanliness, home training, good environment and bod- exercise. To this the slight immunity of the Anglo- xon is as much due to the racial difference in notionality and auto-ideality.

Before proceeding further let us see what the basis hysteria is. It is a question often asked, but never swered. Still, there is an underlying groundwork every case. We do not refer to hypotheses. any of these have been advanced, as that of Janet, at hysteria is due to a weakening of the psychologic nthesis; of Myers, that it is due to a disease of the ypnoid stratum, and of Liebermeister that it is a bcortical disturbance. We refer merely to definite neral conclusions on which we can build our ideas hysteria. They are: 1. Organic alterations are ab- nt. 2. The symptoms are dependent on psychic emo- ons. 3. The psyche is diseased. 4. Physical dis- rbances increase the psychic disorder.

An example will illustrate this. A mother is walk- g with her child, hand-in-hand; the child stumbles d would have fallen had not the mother held her by the hand. The child screams and the mother becomes frightened when she sees the arm hang limp and lifeless. She imagines it has wrenched the arm from its socket; the child cries more and more and a physician is hastily sent for. Every attempt at movement of the arm produces pain; every touch, no matter how slight, evokes a scream of anguish. Yet no fracture, no dislocation, no contusion is noticed, the history of the accident is so peculiar that finally the physician thinks of hysteria. The child's attention is diverted, its arm is then again examined unobserved by it, and behold it can be pressed and touched and moved freely, till the child suddenly observes your actions and again the arm is limp and painful. This is a comon type of hysteric attacks in children, and we can readily see how far our four previous conditions hold. The fall had slightly wrenched its hand, perhaps produced a momentary pain. A child, always excitable, exaggerates this pain, its emotions are aroused, psychic inhibition is lost and the excitation induces a seemingly organic condition.

Such a case, however, can not occur in every child. In what children can we expect it? This leads us to the causes. In the first place our prolix French colleagues have given as causative factors almost everything under the sun. We must recognize the fact that febrile disorders, the various dyscrasias and diatheses, by weakening the constitution tend to promote the inroads of another affection; but they can have but little bearing on the disease itself. DeMussy asserted that he had never seen a case not of chlorotic origin. Reflex causes are but slightly at play in children. Sexual life is not yet formed and, therefore, does not have much importance as an etiologic factor in children. The same is true of trauma. We speak broadly, therefore, and say that anything which weakens the psychic forces or inhibits them favors hysteric onslaughts. In children we can consider this under two phases: 1. Improper education and environment. 2. Heredity.

We do not hesitate to say that the importance of the latter has been much exaggerated. If we run the gamut of all the relatives, paternal and maternal, we can not help meeting with a near or distant member who has shown signs of degeneracy or symptoms of some neurotic disturbance. It is very easy to eagerly fasten on such a history and triumphantly say that it has done it all. Charcot held that arthritic and neuropathic affections are allied, and Grasset seeks to show a relationship between phthisis and nervous diseases. This, to me, but shows how fanciful and far-fetched conclusions have been made.

Habits are formed by imitation and repetition of the acts of the parents. Hysteric parents have hysteric children, because the child is brought up, trained and developed by the parents; unconsciously and consciously, it imitates them and repeats their actions. I have not only observed this but have seen an hysteric child induce a similar attack in its mother. In what other way can we account for the epidemics of hysteria in convents and boarding schools? Example, imitation and improper training are certainly psychic causes sufficient to produce hysteria. If a child is a daily witness of the hysterical attacks of its mother or of the drunken stupors of its father, it does not necessarily inherit their condition, but it is the moral effect, the influence of their habits and teachings that may make it the same.

All the sensations of a child are not only novel but vivid; and their senses become developed through their surroundings. They reason and act according to what they see and observe. It takes little to cause them joy; less to make them sad. Now hysteria is simply a discharge of morbid influences along the various motor and sensory paths, and improper home influence and training certainly promotes such morbid states. Other psychic moments are fear or fright. Often the cause of the child's hysteria is fright caused by a drunken father nightly beating mother and child, or fear of a whipping by a stern teacher. I saw a case lately in which hysteric attacks occurred in a child almost every morning. These consisted of convulsive twitchings and contortions lasting about three to five minutes. On investigation I traced them to be fear of going to school. Removal to the country worked a prompt cure. Auto-intoxications, which are of moment in cases of adult hysteria, do not play much of a part in infantile cases.

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Lamarck rightly regards habits and influence as being able to modify a child's organic structure. The brain is a passage-way as well as a storehouse. It receives, but more than that, transmits. All our impressions stored there are capable of becoming sensations, perceptions, ideas, emotions and finally acts. The volitional centers are little developed while the imaginative ones reign supreme.

Hysteria in children is very often monosymptomatic. One part of the body only is paralyzed or painful, a circumscribed spasm is found, not a general one, etc. In addition the well-known hysteric stigmata, the sensory disturbances, the anesthesia and the hysterogenetic and hysterofrenatic zones are generally found wanting. Severe epileptoid convulsions are also rare in children. The symptoms that are found are, however, generally severe and drastic in character, and never so slight and variable as found in the adult.

Inasmuch as we largely have monosymptoms in hysteric children, a systematic presentation of the symptomatology is impossible. All that can be attempted is to present the most important and frequent symptoms and symptom-complexes.

Hysteric symptoms are both subjective and objective. In every case we find some modification of psychic phenomena or alteration of personal characteristics. Mere presence of emotional conditions in a child, however, does not constitute hysteria. This error was made by the French school, whose members made the psychic stigmata of degeneration symptoms of infantile hysteria. Another error is to confuse hypochondriac symptoms with hysteric ones. The depressed, moody, self-conscious hypochondriac may be hysteric also, but not always. Hysteric persons are never afraid of disease, as are hypochondriacs, nor do they center all their thoughts on their mental and physical condition, but are rather careless, forgetful and varying in disposition.

It is evident to all that no single psychic symptom can be said to belong to one disease. Only symptom-complexes can enable us to recognize conditions and assign causes. For this reason we often find that hysteria is associated with mania, melancholia, hypochondria and neurasthenia. In the latter, the psychic condition is strikingly different from that of hysteria. In neurasthenia, the machine stops because the power has been withdrawn; in hysteria, because it is acted against by some external agent. When both actions occur conjointly, we have a confused symptom-complex which is hard to diagnose.

Hysteric children are generally precocious and egotistic, impressionable and emotionally irritable. They react to the least excitement, may become suddenly moody and sad without cause, reject their little friends, mope for hours, or they will suddenly burst out crying, break their toys and stamp and rave. They are generally capricious and have depraved tastes—pica hysteria. Some are so stubborn as to be unbearable, others so violently affectionate as to be disagreeable. The longer the disease lasts, the more does the child concentrate its mind on itself, the greater and more varied are its bodily ailments. Suggestion is the field they wander in, and more and more does imagination rule. The will weakens, abulia and metabulia result; as Paget aptly said; "it is not 'I can not' that dominates them as much as 'I will not.' "

In cases of hysteria in childhood we find flaccid paralysis, often with contractures. Paralysis of a single muscle or of all four extremities is rare. It is generally a paraplegia or paralysis of a single limb. The face is rarely involved in the paralysis. Hysteric contractures present two important characteristics: 1. They are very marked, more so than in organic cases, resisting all passive movements, but relax in sleep or under chloroform. 2. They are painful to the touch; the joints being especially sensitive. The knee-jerks are rarely increased, and thus present a differential point to many organic cases.

Hysteric paralyses at once impress one by their variability as to the degree of paralysis; relapsing and improving; changing in location and integrity, without assignable cause. Muscular atrophy may occur, resulting from the inactivity of the part. When ankle-clonus is present, the thigh generally takes part in the motion, the clonus in fact being due to contraction of the calf muscles (Gowers).

The gait resulting from functional paralysis of the lower limbs is peculiar. It is jerky, not halting nor hesitating, the steps taken being small and noticeably forced. There is no spreading of the legs, as in organic inco-ordination, no high-step with foot-drop, as in infantile paralysis and multiple neuritis, no scythe-like motion as in organic hemiplegia with the turned-in toes catching on the floor at each forward step. The muscles impress you as being unnecessarily used rather than being useless. The anesthesia of hysteria is quite different from that accompanying organic lesions. It appears in the latter in longitudinal stripes parallel to each other; grouped anatomically. But in hysteric cases it is found in circles perpendicular to the long axis of the limb, or in irregular patches, a physiologic grouping, hence the names, "stocking" or "glove type," given to hysteric anesthesia. It is true the first may occur in locomotor ataxia and multiple neuritis, and the second in syringomyelia and beri-beri, but very rarely and then gradually shading off. Patrick says that the limiting circle of hysteric anesthesia changes even within a few minutes, so that an examination a short time after a previous one will often give results differing one to two inches from a previous one. In children, hyperesthesia is perhaps more often found than anesthesia.

Astasia and abasia are often found in children. These occur much more often in children than in adults. These names apply to those conditions in which the muscles of the legs can be used, when sitting or lying down, but are unable to be used for walking or standing. They act as if they had forgotten how to walk or stand. We have a spastic, a paralytic and a choreatic form of astasia-abasia.

Another hysteric paralysis of childhood is aphonia. t is characteristic that they are able to cough or sing hile not being able to speak. Hysteric stuttering is lso often observed. In a case seen by me recently, the hild would introduce l's into her words wherever pos-ble, e. g., "I don't feel very well," she pronounced, I lon't feel vely well." It was only after careful ob-ervation that I excluded aphasia and noticed the eculiar form her speech took. Hysteric blepharospasm often observed in childhood.

We often observe choreic movements in hysteric hildren. I observed a child last February whose father ad been stricken with hemiplegia. The child had been the room at the time and, for weeks afterward, on very attempt to walk, her limbs became unsteady and embled, until the child sat down again. It is probable hat the paramyoclonus of Freidrich, and the chorea ectrica of Henoch are hysteric diseases, similar in ature.

Facial grimaces and conditions similar to convul-ve tic are often seen in hysteric children. The graver orms of spasms and hysteric attacks, as described riginally by Charcot rarely are, if ever, seen in children f this country. Bruns in Germany claims that they ccur as often in children as in adults. In all such ysteric attacks consciousness is rarely entirely lost, nd suggestions offered during attacks are often fol-owed. Epidemic cases are more rare than in former enturies, but still occur in boarding schools and pen-ons, and in isolated villages. A particular danger f the recent revival of hypnotism lies in the produc-on of such epidemics. Hysteric coughs and tach-pnea are also often observed in children's hysteria. lthough sensory disturbances are rare in childhood, hey are occasionally observed.

Neuralgia occurs rarely in children, except the hys-ric joint neuralgias. Pressure causes pain while rcible apposition of the articular surface does not. here is not deformity, no temperature elevation, while e joint is freely movable under chloroform. Ocular isturbances of hysteric origin are so difficult to diag-se in children, when they occur, which is rarely, that ey need not be discussed.

Digestive disturbances, anorexia, and vomiting may ccur. Incontinence of urine is also often of hysteric rigin. When necessary to exclude epilepsy, the differ-t stigmata of this disease, the involuntary micturition, ting of the tongue, idiotic faces, peculiar aura, eleva-on of temperature, etc., and the stigmata, etc., of hys-ria will furnish a differential diagnosis in most cases.

Some points to which I called attention in a previous ticle are important ones, not sufficiently empha-zed: 1. In hysteric attacks the patient resists open-g the eyes, while in epileptic ones he does not. 2. In e former his face is flushed and cyanotic, in epileptic tacks, pale and colorless. The peculiar chattering of e teeth in hysteria should also be looked for.

A case that illustrates the difficulty of making a agnosis is the following one, which I saw is last winter. The notes taken at the time read: ary M., aged 13, came to the clinic on December 13, ith her father, to get treated for her fits. She said, nd so did her father, that she lost consciousness daily r from ten to fifteen minutes. She has never bitten er tongue nor micturated during these attacks. On e other hand, her face does not flush nor become anotic, and she has hurt herself in falling. She says seems as if something pushes her from behind and en her limbs give way and she falls. She does not menstruate as yet, is well-built, no hereditary taint, but seems neurotic. She, however, has had bad home surroundings—her mother drinks and whips her. She is very restless and excitable, and is not over-intelligent. Her father insists on questioning that she loses consciousness during the attacks. A diagnosis *in dubio* was made till further examination. Dr. Diller saw her later and, wishing to study the case, she was sent to the General Hospital. Here she had several attacks, occurring irregularly at indefinite times. She seemed to vary in them so much that the resident physician's report was conflicting, once giving a report of an attack of complete unconsciousness, foaming at the mouth of one to three minutes' duration, then of attack with incomplete unconsciousness with inability to speak. Finally she was seen in an attack during which she had crawled under the bed and from which attack some ammonia to her nostrils aroused her immediately. A diagnosis of hysteria was made and appropriate treatment instituted with gratifying results.

False diagnosis in hysteria occurs in two ways: 1. A severe organic trouble—above all others, those of the nervous system—may be falsely regarded as hysteric. 2. An organic trouble may be thought to be the cause of the symptoms when hysteria is present. When hysteria complicates organic trouble diagnosis is doubly difficult. This is especially liable to occur in hysteric children, yet hysteria is the last thing thought of by most physicians when examining a child. The most important requisite for a diagnosis is, then, complete general and special medical experience and careful observation; above all else it is necessary to at least think of the possibility of infantile hysteria. An important point in this regard is to decide what we would call a symptom of hysteria. My opinion is that all symptoms that can also be produced voluntarily, that may be simulated, may be hysteric. In other words, symptoms which are clearly organic do not occur in hysteria, as bladder paralysis with cystitis and pyelitis, decubitis, muscular atrophy with D. R., etc.

Hysteric patients always exaggerate their trouble; pain makes them crazy; they yell and fume in the wildest manner, more like brutes than human beings. When we also remember the unanatomic grouping of symptoms, the involvement of only certain muscles, as for instance in hysteric paralysis of the vocal cords, when speech but not singing is impossible, and the obvious psychic influence at play, we have a group of facts which renders it easy to decide on the hysteric nature of an attack. Just as hard as it is to diagnose the hysteric or organic nature of an affection in some cases, is it to distinguish simulation from hysteria. The prognosis is much better than in older persons. The younger the child, the easier to cure. This results from the fact that they are more easily influenced, that their psychic nature is more easily acted on. From this it can be seen that the treatment is moral. For psychic disease, the treatment is psychic. Make the parents realize their responsibility and the effects of their influence: no feebleness nor submission to the caprices of the child, but not too much vigor and no corporeal punishment. Too much severity is as bad as too much love. Unfortunately, it is just in these cases that the parents are unable to treat their children as desired. For this reason, isolation is necessary. The child, brought to a hospital, realizes itself alone; it can not call on weak parents to act against the injunctions of the physician, finds it will not get home until cured, the new surroundings, a strange physician—all these factors will work wonders. Stop all visits, even letters.

In hysteria we have marvelous cures or no cures. For this reason the family physician, if he fails to take the upper hand from the first, or if he allows the mother's word to have any influence, will not succeed in his treatment. Unsuccessful, at his or the mother's suggestion a specialist is called in. The latter is firm, isolates and cures. There are two methods to be used: 1, ignoring the patient completely; 2, allowing him no time to be sick. The latter method is the best. As soon as the patient enters the hospital start your treatment; keep him on his feet doing something till he falls asleep, and continue unceasingly till cured. If astasia-abasia is present, set the child on its feet and tell it to walk, or place it in a suspension apparatus and suddenly, without warning, allow the child to fall upon its feet; in hysteric aphonia pass a sound and command it to talk after removing, or if this does not succeed, to cough, etc. In the other method allow no one to speak to the child; let it be ignored until we might say the symptoms die out from sheer neglect.

In addition all methods used in functional cases can be tried. Massage and electricity, hydrotherapeutics and careful dieting are of benefit. When other diseases co-exist they should be counteracted by appropriate remedies. The copper salts, gold and sodium chlorid, the valerianates, sumbul, turpentin and other drugs used in hysteria benefit only by suggestion, as do the mechanical methods previously spoken of.

As to prophylaxis, it is of great moment. Children of neurotic taint should be trained away from home under good moral restraint. Public schools are better than private ones, for in them they are not so liable to become the victims of the endemics of hysteria seen in convents and boarding schools. The amount of mental labor should be carefully regulated, not forgetting, however, that excessive physical exercise is just as injurious. It is unfortunate that camp meetings and spiritualistic séances, which are the cause of many cases of hysteria, can not be prevented. Intelligent parents should be taught the value of good discipline, careful education and self-control. The physician should recognize the advantages of suggestion, and should be on the lookout for manifestations of hysteria. Splints, casts, and embrocations have been many times applied to hysteric joints. Tenotomy has been often proposed for hysteric contracture, or excision for a hysteric tumor. What enthusiastic charlatinism has done, what Mollinger and Kneipp, Lourdes and Tries have done, physicians can likewise accomplish, and the people should be educated to this standpoint.

DISCUSSION.

Dr. C. G. Slagle, Minneapolis, Minn.—I can not believe that idiopathic hysteria is so common in children under 7 and 8 years as it has been represented to be. As a symptomatic affection hysteria is not, however, uncommon. In children it is interesting from the point of view of diagnosis. I have myself made some very grave mistakes in failing to recognize the underlying disease. Wood, I think, has most graphically defined idiopathic hysteria as an "ebullition on the surface of life whose depths are undisturbed." I once produced a form of hysteria in a neurotic girl suffering from a mild form of typhoid fever, and it taught me a lesson. I did so by giving her strychnin. She became very hysterical, and I did not discover for a while that it was the strychnin that I was giving her for her weak heart that was responsible for the hysteria. Hysteria in children is less frequent than it has been represented to be. It is important to detect the underlying conditions.

Dr. Rosa Engelmann, Chicago—I do not know any more difficult task than to make the diagnosis of hysteria in children, especially when there is an absence of the usual stigmata. I recall a case in which all the stigmata were absent and it was absolutely impossible to make the diagnosis until I accidentally saw the child in convulsions. The diagnosis had been made of epilepsy previously by other physicians. I happened to see that the child did not hurt itself; I noticed also the character of the convulsive movements, and that in a few moments she was able to get up and walk about. She was placed under treatment, and for six months she had no hysterical attack. Then her father whipped her one day, and immediately the hysterical attacks recurred. The child is still under observation. I have another case in mind in which it was also difficult to make the diagnosis. Some six months previously I had seen the child with what I supposed to be a hysterical hip lesion. On consultation, tuberculosis had been excluded. Some six months later the child had entirely recovered. But subsequently there was an attack of polyuria, the child passing thirty pints of urine daily. The polyuria was so excessive that there was no rest at night, and it was not diminished by medication. Six or seven consultants were called. Finally a blood examination was made, and the malarial plasmodium found. The question then occurred to me: Was the first illness a hysterical joint due to the toxemia of malaria?" I am now able to state that after an interval of six months this child only passes from six to ten pints of urine daily, and that no sugar has been found in the urine, and that she looks robust and well. This child is of a decidedly neurotic temperament.

Dr. G. M. Blech, Chicago—I wish to congratulate the essayist on his exceedingly scientific and valuable paper. It is very difficult to make the proper diagnosis in diseases of the nervous system, particularly in children. There is enough difficulty in adults in making a correct diagnosis between organic trouble and a neurosis or a psychosis. In children it is much more difficult. Very frequently the pediatrician is almost unable to make a correct differential diagnosis, excluding the presence of organic central or peripheral lesions, and differentiating between a case of hysteria and neurasthenia.

I wish to add a little experience I had in my clinic some three months ago. A little boy about four years of age was brought in with aphasia. He could not speak a syllable. He had been able to speak when about 2 years and 3 months old, but at that time he had been locked in a dark room by his playmates, and ever since then he had not spoken at all. An eminent physician who was present at the time to which I refer, thought of central nervous disease as the cause, and another suspected tuberculosis. In spite of a most thorough physical examination nothing definite could be elicited, and therefore by exclusion a diagnosis of hysteria was made. The mother was uneducated, and hence I instructed her merely to use mild hydropathic measures, and told her to be kind to the boy. In two weeks she returned, and in the presence of several physicians the child pronounced a few words, such as "papa," "mamma," "water," and "walk"—in other words those in which the nasal sounds were absent. After a few minutes' practice it did something better, and after three or four weeks' further treatment it was much improved. It is now doing well. The case is of interest because of the difficulty of diagnosticating aphasia when due directly to hysteria, as in this instance.

Dr. Harriet E. Garrison, Dixon, Ill.—My experience in a small town would lead me to think that there is a great deal of hysteria among children. I know I have had at least eight cases in the last two or three years. One patient came under my care first when she was a girl of 7 years. She had been under the charge of several physicians. One of these—a physician who stands very high in the profession—had treated with carbolic acid spray and tincture of iron, an exudate occurring in the throat every time she had an exacerbation of her trouble. His diagnosis was "diphtheria," in spite of the fact that it was necessary to treat her for this complaint again and again at intervals of a few months. When she came under my care I soon found high temperature, 105; exudate in the throat and generally a bright scarlet rash on the flexor muscles of the forearm, but once the rash covered the whole cutaneous surface and so closely simulated scarlet fever that I should have given a diagnosis of this disease had this been the first attack after she came under my care. A few warm baths, with acetanilid for the high fever and nerves and a seidlitz powder caused the disappearance of all disease, and the fourth day she was again riding her pony. Fancied abuse of this pony by some student tourists had caused the anger which brought on this attack. I found these attacks came after nervous excitement, and I then diagnosed the affection as a neurosis. In spite of all that I can do there are still occasional attacks, although her will is gradually gaining control. She has been under my care the greater part of the time for thirteen years. Not more than two months ago I saw an attack of stuttering and hysteria in a young boy. Before he left my office he was able to speak better, so that the neurotic condition was evident. I have under my care a woman who has hysterical attacks which are the result of taking strychnin. It took me about six months to find the true cause of the trouble, and then I discovered that every time she took strychnin in 1/60-grain doses a convulsion followed the first dose. After the strychnia had been discontinued these convulsions entirely disappeared.

Dr. C. G. Slagle—The best of all treatment for hysteria, so far as I know, is hypnotism, and I have tried all forms of treatment.

Dr. Harriet E. Garrison—The best of all treatment for hysteria, in my opinion, is teaching the parents to discipline their children as soon as they are able to know anything. If this were done there would be much less hysteria.

Dr. Ewing, Salt Lake City—I have had a number of such cases in children, and I have threatened them with hypodermic injection. Usually this threat has been sufficient to effect a cure.

Dr. Ed. E. Mayer, Pittsburg, Pa.—The remarks made go far to prove that hysteria in childhood is frequently observed in America, notwithstanding statements of Sachs and others. The classification proposed by Dr. Slagle, or idiopathic, simple and symptomatic, does not strike me as either scientific or adequate. Idiopathic is a term applied when the cause is unknown, and should be relegated to the past as having no place n scientific nomenclature. In cases of hysteric joint disease, the important part is to exclude organic disease. The diagnostic points I have given in the paper should be of service. I spoke there of the absence of temperature elevation, absence of inflammation *around* the joint—but if present, it is found extending upward and downward from the joint. Then again, by distracting the attention of the patient, it will be found that the articular services can be rubbed together without causng pain, which would be impossible in organic disease.

I consider hypnotism the worst thing a physician can use in nfantile hysteria. Hypnotism is merely a form of induced hysteria and is always dangerous in children. Suggestion, however, may be of benefit if the child is of a sufficient age to receive it. But hypnotism is even more harmful than the spiritualistic séances and camp-meetings which are productive of hysteric boy-preachers and the like.

The most important part of the treatment is isolation and rest and I would ask you for your own protection to isolate every hysteric child if you expect to cure it.

CONVEYANCE OF INFECTION THROUGH THE MEDIUM OF THE EAR SYRINGE: A REMEDY.*

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Inflammation of the middle ear may result from various affections of the nose and throat or from infection externally, and may terminate in recovery without treatment. With modern treatment many cases undergo a speedy recovery, running a course of from a few days to two months, while others under similar conditions and with the same treatment result in a most violent inflammation involving the mastoid and surrounding structures, or lapse into chronic suppuration.

The variation in severity and chronicity is in a large degree due to the character of the bacterium or bacteria causing the infection. "Whether the disease shall promptly run its course or change into the chronic form depends upon the continued activity of the germs present or upon the gradual dying out of the first culture and implantation of new varieties upon the now affected membrane." (C. R. Holmes.)

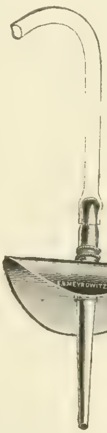
The germs commonly causing inflammation of the middle ear are: the diplococcus of pneumonia, staphylococcus pyogenes albus and aureus, streptococcus pyogenes and the bacillus pyocyaneus. (Holmes.) These and other germs found in the ear vary greatly in virulence. The staphylococci are for instance less virulent than the streptococcus pyogenes, and the most destructive process results from a mixed infection caused by the bacillus tuberculosis and the streptococcus pyogenes.

In the treatment of these affections it should be our aim, therefore, to prevent added or mixed infection, and, as in the dressing of surgical cases, it is necessary to use clean instruments.

The syringe commonly used in the routine treatment of these infections is a piston syringe. In its use the point is immersed in the solution and the cylinder filled by suction, the point then touches the ear, from which there is such a profuse discharge that a part becomes adherent to the point, the syringe is removed, to be used again on the next patient. In sucking up the solution this time some of the pus adherent to the point is drawn into the cylinder to be forced into the ear of the next patient. The leather washer becomes contaminated and makes a good culture-medium which can not be boiled without being destroyed. Or the pus may remain on the point to directly infect another patient.

In order to prove these surmises the writer made cultures from the points and interiors of several ear syringes and demonstrated the presence of various bacteria, including the staphylococcus pyogenes aureus and albus, streptococcus pyogenes and bacillus tuberculosis, and became convinced that the ordinary ear syringe is a dangerous and dirty instrument, capable of implanting new and mixed varieties of infection on a fertile field.

An ear syringe, to be aseptic and practicable, must meet the following requirements: 1. The point which comes in contact with the ear must be capable of sterilization, and so constructed that it can be easily removed. 2. There must be no suction through this point.



The fountain syringe answers these requirements, and in my office I have used, for about two years, a metal tank, suspended from the ceiling, which rests against two steam pipes. These pipes keep the water at a proper temperature during cold weather. With this I use small glass points, and change them after using in a septic case. The fountain syringe is, however, open to the objection that the current can not be regulated at will, and, accordingly, Meyrowitz has made, at my suggestion, a bulb syringe which has a valve at each end. The solution is drawn in at one end through a rubber tube so large that the bulb is quickly filled. The rubber tube at the other end is smaller and terminates in a point fitted with a shield to protect the operator from the return flow. The point can be unscrewed and sterilized.

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DISCUSSION.

Dr. L. C. Cline, Indianapolis, Ind.—I do not see the point the Doctor makes in reference to putting the syringe in the ear, nor the necessity of introducing the point of the syringe into the ear sufficiently to infect it. It is my practice to hold the point of the syringe away from the ear so that it never touches the ear at all. I hold it away from the ear and steady the syringe with the point of the finger of the other hand. By keeping the syringe away an inch or two from the ear we can wash it as well or even better than if we put it in the ear.

Dr. A. R. Baker, Cleveland, Ohio—For several years I have done away with all forms of piston syringes in the treatment of the ear. I simply use the little bulb ear and ulcer syringe that is commonly to be found in the drug stores. This instrument can be boiled and sterilized, and I never find any difficulty from using it. I can remove a plug of cerumen in one-third of the time required with any other instrument.

Dr. B. Alexander Randall, Philadelphia—This subject of aseptic syringing is an exceedingly interesting one. There are many who regard it as absolutely unsurgical to use a syringe at all, but I am by no means such a one, for I use it habitually, and I am sure it is with most satisfactory results. Every improvement in this direction is of considerable importance. Much can be done by the avoidance of any contact with the infected tissue, and if we will rest the syringe on the thumb of the hand holding the ear we can often avoid infection. Yet any one who is a teacher and has his instruments used by others in the clinic may have them infected by others even though he be very precise himself. I myself prefer a small syringe that does not have the element which is present in this and some other instruments. I refer to the shield to ward off the return flow. It seems to me this prevents much of the precision with which the instrument should be used since it cuts off the view. I like a small tip and can then carry it to any necessary depth in the canal with full view, as in tympanic syringing. But every measure which tends to make syringing a safe as well as efficient procedure is of importance.

Dr. C. R. Holmes, Cincinnati, Ohio—While it is true that men like Dr. Randall and Dr. Cline, careful men who are expert, will be able to use their instruments with sufficient care, an instrument that is in universal use must be such that those who are not expert and careful can use it without danger of infection. The objection urged by Dr. Randall, that you like to have your point so you can see just where you are going, is a good one. When you wish to syringe out cerumen, for instance, it is better to have it arranged so you can syringe between the plug and the wall, and under such circumstances naturally the syringe must be contaminated. It is unfortunate that our instrument makers do not make the same kind of packing as the German instrument makers. I have brought over instruments from Germany with the reddish composition packing, and I have boiled them repeatedly, but when they were finally played out I could not get as satisfactory packing here. The point of having an even temperature, if that can be arranged successfully, is certainly very desirable. In cold weather especially we are likely to get the water too hot or too cold. For middle-ear inflammation I use the water at a temperature of 110 to 120, and even 130 F. I have found that water at that temperature is very soothing. Generally 120 F. is as high as may be used conveniently.

Dr. F. C. Todd, Minneapolis, Minn.—In regard to the point Dr. Cline mentioned, I think Dr. Holmes answered that question satisfactorily. We can, if we take the pains, keep from touching the ear in a great many instances. However, we are very likely to touch it even when we are extremely careful, if the patient moves. The fact that cultures of the various bacteria mentioned were obtained from the ear syringes of various aurists who allowed me to examine their syringes would tend to show that many are unable to keep their syringes aseptic. I do not like to shove the syringe in the ear, but I do like to get it close enough to use it with effect. Students are especially in the habit of putting the syringe right up against the ear. As to the point mentioned by Dr. Randall, in regard to the shield, I will state that the shield can be removed. I often use a swift current in chronic cases, especially when there is a large quantity of cholesteatomatous material present, and then we can do much more with the syringe than by picking at it with instruments. The return flow then gives considerable trouble unless you have a shield to carry it off. Another advantage of the syringe, which I did not mention in the paper, is that we can keep right at work with the bulb without turning around to fill the syringe as with the ordinary syringe.

AUTOMATIC DRAINAGE OF NORMAL CAVITIES.*

BY WILLIAM JEPSON, M.D.
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It is not my desire to enter into a consideration of the relative merits of capillary and tubular drainage, when it becomes necessary to conduct undesirable liquid products from cavities. Suffice it to say that each will at times find a field of application peculiarly its own. There can be no doubt that when large cavities, i. e., peritoneal or pleural, or hollow viscera, i. e., gall or urinary bladder, are to be drained of considerable quantities of liquid, tubular drainage—either by means of glass or rubber—with few exceptions will offer the ideal method. The advantages of tubular drainage are briefly stated: 1, that by this means the product sought to be removed may be conveyed through the dressings applied, so preventing soiling of them, which is certainly of much importance in cases in which contamination of the wound would be undesirable; 2, that the discharges may be efficiently withdrawn from the containing cavity, although often necessitating the more or less constant attention of a competent nurse, as when used in the peritoneal cavity in aseptic cases.

Some of the disadvantages are that the fluid which it is sought to remove will only find exit through pressure exercised on it from within, or through overflow, or else by removal through aspiration, by means of the usual long-nozzled syringe or other device, as generally employed, and if this is not in the hands of a competent attendant, infection is likely to follow. This latter objection is vital when it is not possible to leave the case in the care of a competent nurse, as sometimes happens where cases have to be operated on in their homes, remote from such advantages.

To overcome these objections I have for some years employed a device which automatically removes or siphons the cavity empty of its contents. It consists of a glass chamber, to one end of which is attached a rubber bag to receive the discharges, and to the other end is attached a rubber tube for connecting with the cavity to be drained, either through the intermediation of a rubber or glass drainage-tube, as may be elected. The glass chamber is nearly filled with sterilized water, and then suspended at the side of the bed where the patient is confined, or suspended at the side of the thorax or limb in draining the thoracic cavity or bladder in ambulating cases. The water in the glass chamber gravitates into the receiver, and as it does so creates a vacuum, which aspirates the liquid from the cavity desired to be drained.

To me this method of drainage has found a field of usefulness in draining the pleural cavity of purulent contents, by keeping the cavity comparatively free from purulent accumulations and preventing the ingress of air, thus permitting the approximation of the parietal and pulmonary pleura and facilitating the process of repair. In using this method for drainage of the pleural cavity, I make use of an ordinary rubber drainage-tube long enough to reach the most dependent portion of the cavity, which has a rubber shield, applied to prevent the ingress of air.

In draining the gall-bladder or urinary bladder after cystotomy, I employ the method that I have already described as used in draining the pleural cavity. In the event of drainage being desired after the patient is able o be about, the apparatus is strapped to the body as already stated.

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In using the same to drain the peritoneal cavity, I make use of the ordinary glass drainage-tube generally mployed, which has a glass tube fitted within it, by means of which the fluid is siphoned away as rapidly s it accumulates within the drainage-tube proper. Where arge areas have been denuded, I combine gauze drainage vith this, bringing the end of the gauze up into the ower end of the drainage-tube. I believe that in this lass of cases this method of drainage is most marked n its efficacy, owing to the fact that it acts continuously nd cares for itself, thus obviating the constant attention which would otherwise be necessary on the part of the nurse, and where the risks of infection through incompetence in aseptic technic on the part of careless or ignorant attendants is considerable, as must frequently be the case, its advantages seem to me invaluable, as nfection is absolutely guarded against.

While the principles involved in this method of drainage are well recognized and not new, the application of he same in the manner that I have detailed has not hitherto been made use of to my knowledge.

DISCUSSION.

Dr. J. B. Bullitt, Sr., of Louisville, Ky.—The device proposed by Dr. Jepson is certainly to be desired, provided it would vork. I have experimented with a somewhat similar device myself and am prepared to say that it would not work in practice, and if it would, it would require a condition which the levice is intended to prevent—the accumulation of fluid in a avity to be drained under a certain amount of pressure; otherwise the siphonage would not occur until this pressure was upplied from behind, which would preclude using this apparatus in conditions where it would be desirable to use it as n suprapubic cystotomy. This apparatus would not be sufficent. It would presume that you could occlude this entrance and make it air-tight, which is difficult or impossible. The ame would be true of all operative wounds. Unless an apparatus of this kind be operated with an artificial reservoir to vork the siphonage apparatus, it is impossible to make it vork. I have seen such an apparatus work for days at a time y means of an artificial reservoir of which I speak. The time an be graduated. This apparatus was devised by one of our Louisville surgeons, Dr. Chenoweth. I do not claim any priority for him, for perhaps we might find several hundred years go some other surgeon might have done that same thing—ut Louisville has done it again!

Dr. **Frank Warner** of Columbus—I think that the gentleman has produced an apparatus that is very ingenious in its onstruction. Yet at the same time in one of the places in which he suggests its use, a very much better means of drainage is iodoform gauze, or the ordinary glass or rubber drainage-ube. I think we have been too much prone to drain, instead f closing our wounds. Yet while a large number have to be rained, we could use iodoform gauze in a vast majority of ases.

Dr. **D. S. Fairchild** of Clinton, Iowa—Referring to iodoform auze, it has not been my experience that it serves well for rainage purposes. All who have drained chest cavities have een really inconvenienced by the constant soiling of dressings, nd if this arrangement suggested by Dr. Jepson will work, it vill certainly be a convenience, if nothing more.

Dr. **R. C. Dugan**, Eyota, Minn.—I rise to second Dr. Fairchild's remark as to iodoform gauze not making good drainage material. In doing emergency work I have used nothing ut gauze, and I have come to the conclusion that unless it is wrapped in a rubber tube it is a first-class thing to stop drainage in pus cavities. The gauze very soon becomes filled with brin and makes a splendid plug.

Dr. **J. B. Eagleson** of Seattle, Wash.—I would state that he instrument referred to was described by Dr. Keen of Philadelphia, and was a medification of one by an English surgeon.

Dr. **Jepson**—In closing the discussion of my paper, there is ttle for me to say, except in reply to Dr. Bullitt's statement hat the means which I employ in draining normal cavities will ot work. I am surprised to learn that the doctor is so well cquainted with its inutility, as I do not understand that he as ever employed the method. His opinion is certainly at ariance with my experience, as I have by this method drained he peritoneal cavity in the instance of tubercular peritonitis for sixteen successive days, with no attention on the part of the nurse other than emptying the receiving chamber when it was filled.

There is only one condition which can prevent the proper working of the method and that is the entrance of large quantities of air into the cavity to be drained; but as entrance of air can only take place about the drainage tube, it certainly occurs very rarely, if the wound is properly dressed.

ANATOMIC VARIATIONS OF THE NASAL CHAMBER AND ASSOCIATED PARTS.*

BY M. H. CRYER, M.D., D.D.S.
PHILADELPHIA.

No man who spends any considerable portion of his time in the study of practical anatomy, i. e., actual dissections, can fail to note how great is the number of anatomic variations he meets. So common are these variations that it can not be exactly said which is typical normal anatomy, and which are the anatomic variations. In plain words, anatomy is not a study to be classed among exact sciences. I do not mean by this that there is not such a regular basis of anatomic science that safe anatomic rules can not be made, but the more closely we study the subject the more variations as to details we are compelled to record. To be sure, given the mandible of an animal, a femur, or even a tarsal bone, the nature of associated bones, their size, positions and forms can be deduced, and by further study even an entire animal can be reconstructed. Admitting this, however, there are still as many variations in the internal anatomy as there are differences in the external appearance. Especially is this true in the anatomy of the human head. This special regional anatomy is modified by age, disease, occupation, climate, race, and many other conditions.

The skull consists of bones of both cartilaginous and membranous origin. In the fetus and infant the bones are soft and yielding; they receive deposits of calcific material until the bones become harder and harder as age advances. In the upper and lower jaws there are constant changes caused by development, eruption, and the loss of the teeth and the alveolar process.

Disease causes anatomic changes in the bony structures as well as in the other tissues of the body. In some disorders of the nutritive system the bones may not become incorporated with the full amount of calcific material, which would have the effect of leaving them soft and yielding; or, on the other hand, an undue quantity of calcium salts may be incorporated into the bones, with the opposite effect of making them hard and unyielding, thus modifying the physiologic functions that should take place in and about them.

Occupation will modify the general shape and character of the face and head, especially in youth. Those who are studious and pass an indoor life will have more delicate development of the face, with a larger brain-case, than those who are brought up with a laborious outdoor life. The mastication of coarser foods will develop the muscles of mastication and their bony attachments. Numerous other factors might be cited to show the influence of personal habit on the course of anatomic development.

Climate and its consequent environment has great influence on modifying the development of the bones of the head, as is demonstrated in the different formations of the skulls of the great races of the world.

There are also great variations in the shape, size and markings of one side of the face from the other in the same individual. In bilateral bones, such as the frontal, sphenoid, vomer, and lower jaw, one side is generally found to differ from the other. This being the case it will be readily understood that the internal openings and spaces, such as the mouth, the nasal chambers, and the orbits, the maxillary, frontal and sphenoidal sinuses, the ethmoid and other cells, will differ accordingly.

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*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The density of the bone varies also in different persons and in different periods of life in the individuals.

The illustrations I present herewith are made from my own dissections. I wish to apologize for showing a few that have already been published; they are used on this occasion to demonstrate new points or to more fully establish points that I spoke of before this Section two years ago.

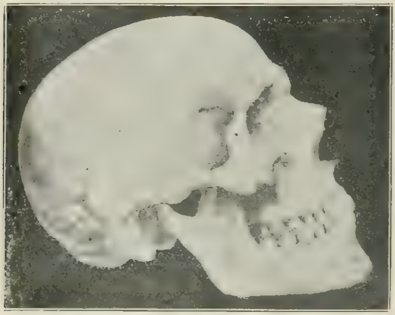

Figure 1.

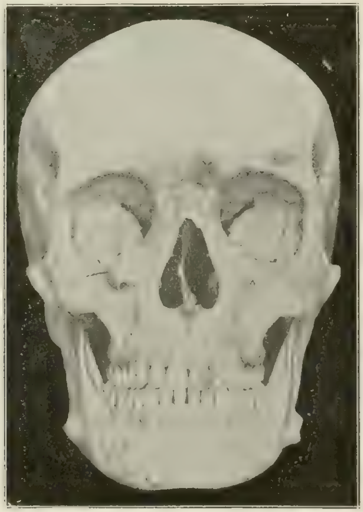

Figure 2.

In order to thoroughly appreciate the delicate symmetry and shades of differences which occur in the construction of the anatomy of the face, it is necessary first to study those skulls and bones that are considered typical at various periods of life, and to give some idea of typical bones I have introduced the following:

Plate 1 is what might be termed a typical skull of a adult person showing perfect occlusion of the teeth.

Plate 2 gives a front view of the same skull. Thes two slides present an almost ideal anatomy of the external bony structure of the face. There is but the slightes variation of the two sides. It may be noticed that th upper right molar stands out slightly more than the lef The septum of the nose is seen to be deflected in the sam direction, and on examination of the internal structures of the nose it is found that the bulla-ethmoi dalis is enlarged on the left side, projecting toward th concavity of the septum. It may be taken as quite constant anatomic law that when the mouth, palate an dental arches are bilaterally symmetric, the outer crania

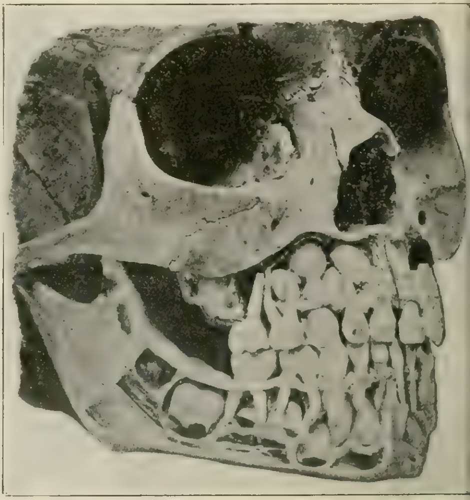

Figure 4.

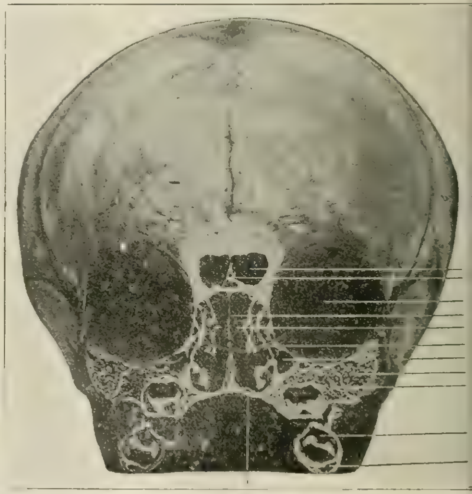

Figure 5.

uctures exhibit a like condition; even more, this bi- eral symmetry will be found to extend throughout the ly. However, this law, as all others relating to anat- ic science, is open to exceptions.

late 3 (Fig. 4†) represents an interior lateral view of skull, before published. It is now shown to draw ention to the close relations the upper teeth have to antrum and the floor of the nose.

late 4 is taken from a skull about 6 years of age. e external wall of the alveolar process of the upper lower jaws has been removeed, along with some of the cellated tissue, exposing the roots of the deciduous th and the crown of the permanent ones. It will be iced that nearly all of the spaces of the maxillary es are occupied by the dental organs, and even at this iod of life there is but little room for maxillary sinus. any interference with these organs at this period it l be seen how easily these teeth can be deflectd in an ormal position, interfering with the sinus or nasal mber, and by these chambers being changed, the asso- ted cavities and adjoining structures will be changed).

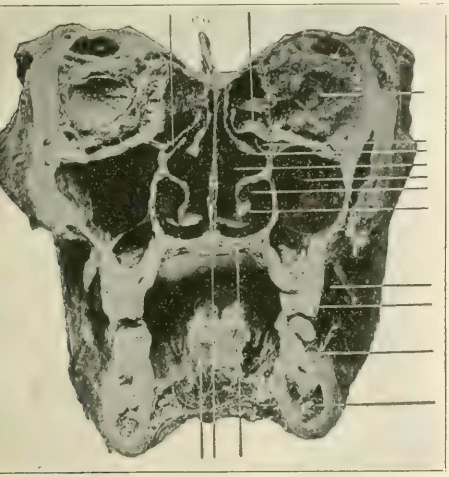

Figure 6.

t will be noticed that the position of the developing ond and third upper molars is very close to the under l posterior portion of the orbit.

n the paper on "The Relations of the Nasal Chamber l Accessory Cavities and Dental Lesions," that Dr. le read before the Section (see JOURNAL, October 7) referred to a patient of mine whose third upper molar th is situated in the upper portion of the distal wall he maxillary sinus. Dr. Stout thought it strange that ooth should pass upward instead of downward. In my nion the tooth referred to has never passed downward m its place of development; through some inflamma- y process the tooth with its capsule has became adher- to the posterior wall of the maxillary bone, the "in- nsic force" being insufficient to force the tooth into its per position at the time it should have made its de- nt. It is somewhat of a similar nature to an adherent ticle in the abdominal cavity or in the inguinal canal. There is no more reason to think that the tooth passed upward than to say a testicle has passed upward from the scrotum into the canal or abdominal cavity.

Plate 5 (Fig. 3†) is made from the skull of a seven-months' old fetus. It is a transverse bilateral section, passing just within the floor of the orbit. In the upper portion of this section will be seen two openings into the brain-case, with the crista galli and falx cerebri between them; below this is the nasal chamber with its septum; projecting from the upper walls of the chamber are the middle turbinals. In the middle meatus there is seen the unciform process forming the inner wall of the hiatus semilunaris; passing upward and a little forward from the base of the inferior turbinal to the outer side of this process is the hiatus semilunaris, from which there is a small opening communicating with the maxillary sinus, which is very small at this period of life. The greater portion of the maxillary bones, both superior and inferior, is occupied by the developing tooth organs. The section will show how nearly symmetric the skull is in the region at this time of life.

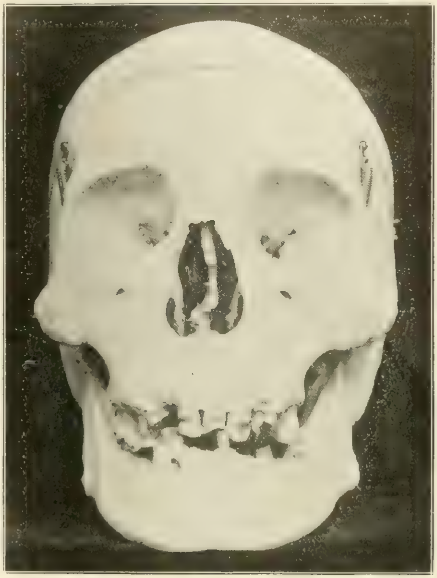

Figure 7.

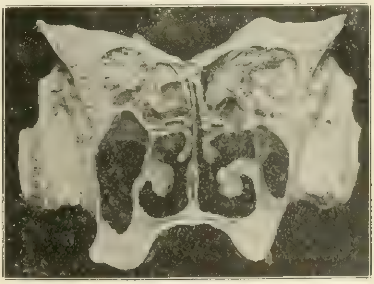

Figure 11.

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† The numbers in brackets refer to illustrations given in a paper read ne before this Section in 1897, which see in JOURNAL, April 2, 1898, pp. 789.

Plate 6 shows a perpendicular transverse bilateral section passing through the anterior portion of the orbit, maxillary sinus and first molar of each jaw on both sides. The eye has been divided in front of the crystalline lens. Between the upper portion of the nasal cavities are seen portions of the middle ethmoidal cells. It will be noticed how nearly symmetric the parts are. The maxillary sinuses are not quite alike, as the saw passes a little farther back on the right side than it did on the left. The floor of the antrum descends between the roots of the molars—a condition much more common among the white race than among the negroes, according to my observation. Abscesses on the roots of the teeth may, and sometimes do, cause perforation of the floor of the antrum, and the extraction of a tooth may be accompanied by the fracture of the floor of the sinus, a portion of it coming away with the tooth.

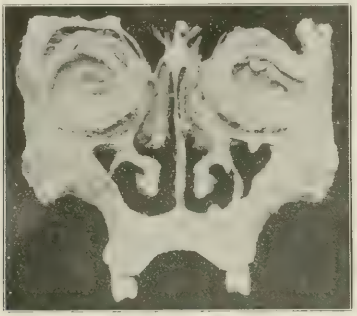
Figure 12.

We admit that pus or infected matter will pass in the direction of the least resistance; we might suppose that by the close approximation of the apical foramen of the roots of the molars, when an abscess is formed at their points, the infected matter would pass into the antrum instead of through the alveolar process into the mouth. My clinical experience teaches me otherwise, i. e., an abscess caused from an infected tooth usually makes its fistula into the mouth. The only reason I can give for this is that Nature usually protects weak, important points in various ways. In this case I believe the mucoperiosteum lining of the sinus takes up its defense, and through its osteoblastic layer builds and protects its walls against absorption and perforation.

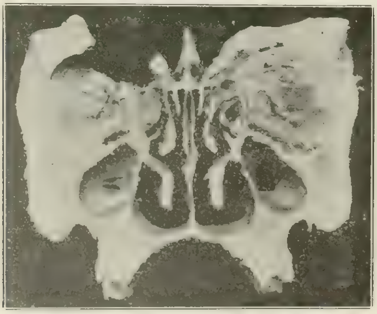
Figure 13.

Plate 7 is a front view of a skull that is not symmetric. It will be noticed that the canine fossa of the right side is lacking, the face being bulged out at thi point. The teeth have not been in normal position. Th septum is deflected over to the right side. In a skull o this character the internal structure will usually be ver much out of symmetry. One might suppose that a larg antrum would be found under the projection, but in thi particular case it is not so.

Plate 8 presents a transverse section of the latter skull It will be seen that the right antrum is smaller than th left, the fulness in the region of the infraorbital forame and canine fossa being due to the thickness of the bone The frontal sinuses of this specimen extend downwar lower than usual, between the orbits.

Plate 9 (Fig. 11†) exhibits an entire lack of symmetr between the nasal fossa and the sinus of the right an left sides, the inferior meatus of one side being close anteriorly by the deflected nasal septum and "spur" passing over and against the inferior turbinal and carryin it toward the outer wall of the fossa.

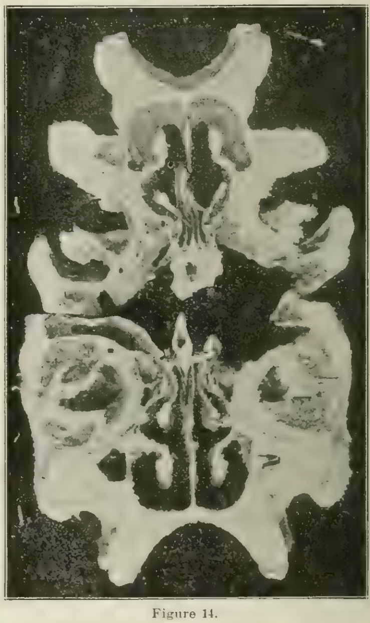
Figure 14.

In Plate 10 (Fig. 12†) it will be noted that a line o instrument passing through the axes of the alveolar process of the right side would perforate the nostril instea of the front of the maxillary sinus.

Plate 11 is from a different skull and has almost straight septum and a bilateral symmetry as to the nasa chamber; the maxillary sinuses, however, vary throughout the depth of the skull. On the left side the antrum would not be reached by drilling through the alveola process.

Plate 12 is also from a different skull, the transvers section made in the region of the first premolar. Th septum is almost straight, the nasal chambers nearl symmetric on each side, but there is a great variation i the maxillary sinus. The outer wall of the nasal chamber of the right side is the outer portion of the maxillary bone, the floor of the antrum being on a much highe plane. In the floor of the left nasal chamber there wil e noticed an elevation which covers a tooth root, more han likely a supernumerary one.

In Plates 9 and 10, it may have been noticed that th asal walls of the right inferior meatus, and in Slide No. 1 the left meatus, passed outward under the maxillary inus to the facial portion of the maxillary one; and in the distal portion to the zygomatic all the same condition will be observed in Slide o. 12. We often read and hear of surgeons opening nto the maxillary sinus through the canine fossa; if uch an operation were performed on the skull of the pecimen from which these photographs were made, the urgeon would go into the nasal chamber instead of the inus, and I have known such to have taken place.

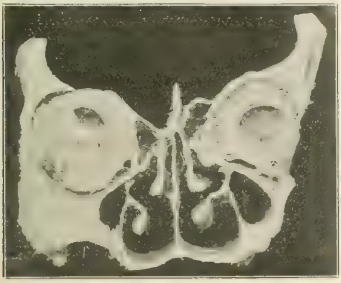

Figure 15.

Plate 13 is a transverse section made through a skull n the region of the second molar. The septum is traight, the nasal chamber and its appendages and the naxillary sinus are almost bilaterally symmetric. The naxillary sinuses are small and do not extend downward n the direction of the teeth and alveolar process.

Plate 14 is a section from the same skull as is No. 13. ut more anteriorly, in the region of the premolars; here e find the parts are almost symmetric. The crista galli as been cut transversely, showing within the walls a cell f considerable size; its opening is into the frontal sinus.

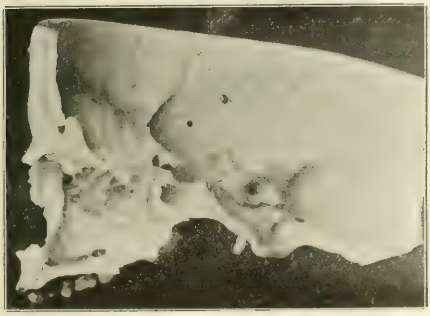

Figure 16.

Plate 15 is made from the skull of an old person where he bones have been much resorbed; it is comparatively ymmetric, with the floor of the sinus much higher than sual and the nasal fossa passing outward to the external ortion of the maxillary bone.

Plate 16 is also from a skull where the floor of the asal chamber extends outward over the alveolar process ntil it reaches the outer wall of the maxillary bone. The points of the palatal roots of the first and second molars will be noticed in the floor of the nasal chamber. The floor of the sinus is well up on the side of the bone.

Plate 17 is from a transverse horizontal section through both orbits and the upper portion of the nasal chamber, giving a good view of a cross-section of the anterior, middle and posterior ethmoidal cells and sphenoid sinus. This picture also illustrates the ethmoidal cells situated principally between the two orbits in a horizontal section. Many of them are formed by the union of the orbital plates of the frontal and the ethmoid bone; others are alone associated with the ethmoid. The anterior ethmoid cells are the smallest of the three divisions, and open by several small orifices into the anterior portion of the hiatus semilunaris. The middle ethmoid cells vary more in size than the other two. The inner covering or wall is usually sphenoidal in form, and is known as the bulla-ethmoidalis. It is situated in the upper portion of the lateral wall of the hiatus similunaris, and extends down and inward toward the unciform process. The openings of the cells are in the inner walls of the bulla-ethmoidalis and discharge into the hiatus semilunaris.

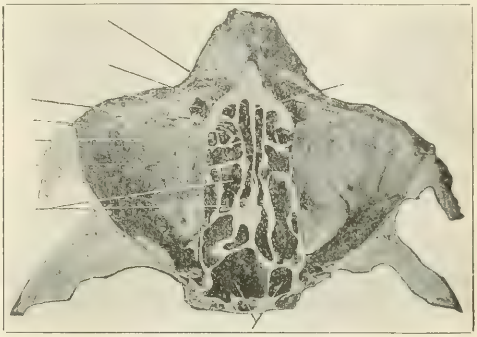

Figure 17.

It is through the increase in the size of the bulla-ethmoidalis that disturbance is caused in the anterior and superior portion of the nasal chamber, the frontal sinuses, and the antrum of Highmore; by its enlargement it presses toward and against the septum, closing the space. When the enlargement is downward it presses more upon the unciform process and into the hiatus semilunaris, closing this semicircular groove and preventing the passage of the fluids from the frontal sinuses and the anterior ethmoidal cells into the middle meatus; consequently they enter the maxillary sinus, and through general inflammation of the parts there is an excess of fluids that can not find exit. This would interfere with the vitality of the teeth through the pressure on the nerves

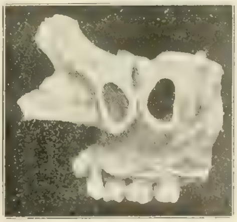

Figure 18.

and vessels passing through the sinus. It is from these nerves and vessels that branches pass into the apical foramen of the roots of the various teeth. The excess of fluids without an outlet will cause fulness of all the anterior cells as well as the frontal sinus, and possibly interfere with the anterior portion of the brain-case. It is this blocking of the hiatus semilunaris which causes the secondary or associated openings between the antrum and nasal chambers.

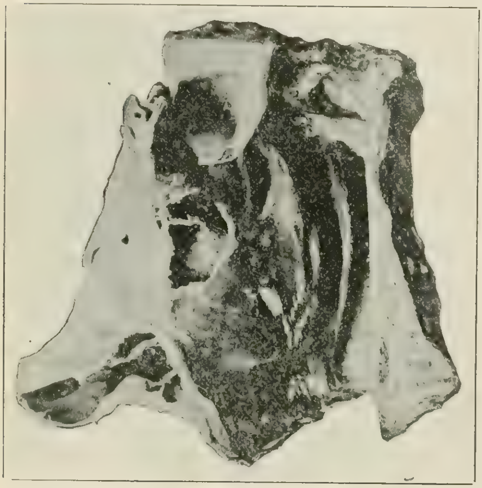

Figure 19.

It will be noticed that there is a lack of bilateral symmetry in the two sides of the septum. The anterior and middle ethmoidal cells of the right side are more numerous than the left at this point of the section, the posterior ethmoidal cells and sphenoidal sinuses varying in shape and size.

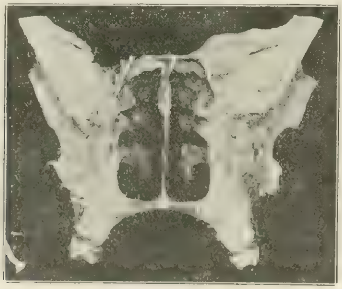

Figure 19½.

Plate 18 is from a section made about the maxillomolar articulation through which the maxillary sinus passes far into the malar bone.

Plate 19 gives a lateral view of the left nasal chamber; As far as I am acquainted with the text-books used in American medical colleges, they teach that there are three meati; this point should be corrected. Zuckerhandl has stated that about 62 per cent. of the skulls examined have four meati. I find fully that number in the skulls that I have made sections of, and in many cases I find five. There are five in the illustration herewith. I do not know of five being mentioned by writers.

Plate 19½ gives a view of a section cut near the posterior nares looking forward; it will be observed that there are six meati, the only case I have noticed showing six, in my section cutting.

Plate 20 gives a typical view of the lateral walls of the nasal chambers from the same skull. They are almost symmetric. It will be noticed that the ethmoid cells are exposed in the right picture. In both these, four meati are plainly seen and in one there are five.

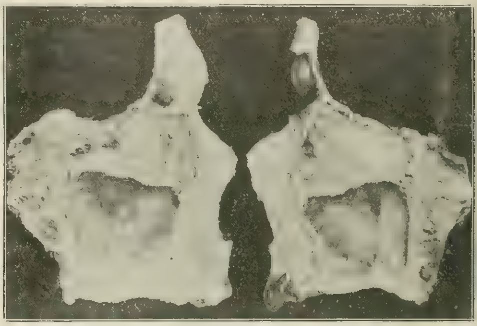

Figure 21.

The general teachings of our schools is that the fluids from the lachrymal glands flow through the lower meatus. The fluids from the frontal sinus, anterior ethmoidal cells and the maxillary sinus flow through the middle meatus, and the fluids from the posterior cells and the sphenoidal sinus flow through the third superior meatus. There should be added to the middle meatus the fluid from the middle ethmoidal cells. In the third meatus the most constant cell that empties its fluid is the one found in the orbital process of the palatal bone, while in the fourth meatus, "The Supreme," there are the fluids from the sphenoidal cells and the posterior ethmoidal cell. Where there are five meati, the fluids from the posterior ethmoidal cell flow into the fifth.

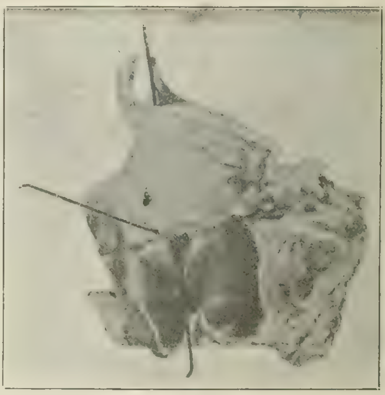

Figure 23.

Before dismissing this illustration I wish to call attention to a pathologic condition. It will be noticed, in the region of the frontal sinuses, that there is a deposit illing the space. It was spongy at the part shown. In ne I have cut the outer wall away in order to more fully xpose and examine it, and I found that the spongy conlition became more and more solid as it extended outvard until it was much harder than ordinary bone.

Plate 21 shows the outer portion of this hardened tructure projecting into the open space of the lateral ortion of the frontal sinuses.

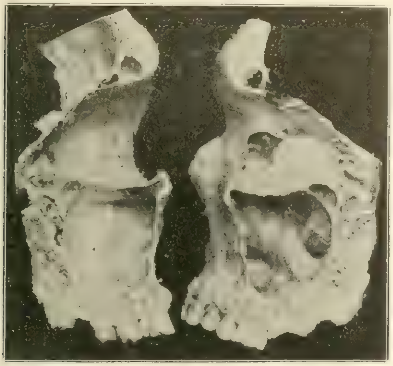

Figure 25.

The two maxillary sinuses of this skull are smaller han usually found. It will be noticed that there are light ridges in the floor of the sinuses suggesting the ormation of septi. Complete bony septi of the maxilary sinuses are spoken of. I have been unable to find uch conditions, although I have specimens which, when ooked at in a casual way, could be classed as such.

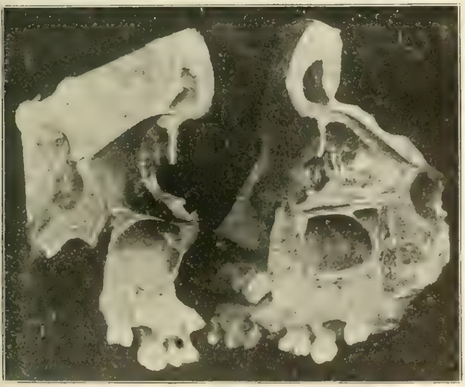

Figure 26.

Plate 22 (Fig. 9†) shows a membranous septum exending well up into the sinus, with a round opening ommunicating with the posterior section of the antrum.

Plate 23 (Fig. 17†) is shown on this section to give an dea of a large sinus in proportion to the bone. It will lso be noticed that there is a ridge or partial septum: his is due to a root having been left in, the action of he re-absorption at this point being arrested.

Plate 24 is also shown to give an idea of the size of the naxillary sinus of an ordinary skull.

Plate 25 shows what might be a bony division of the maxillary sinus; but close investigation reveals that the crescent-shaped cavities situated on the upper posterior corner of the sinus are the cells of the orbital process of the palate bone, and passing a small probe from this opening it would enter the superior meatus of the nose.

Plate 26 is a section of a negro's skull, made through the molar teeth and the middle of the orbit. It shows a sinus at the upper posterior corner of the maxillary sinus. This opens into the superior meatus of the nose and belongs to the palate bones. It will be noticed that the antrum is of very small size.

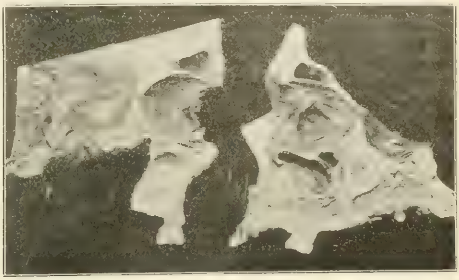

Figure 27.

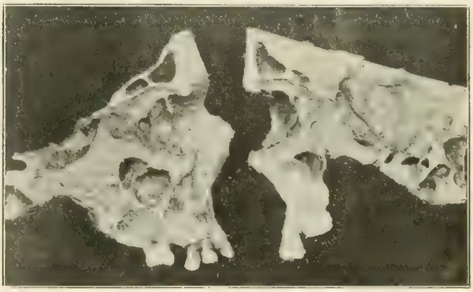

Figure 28.

Plate 27 is from the left side of another skull. The section is made in the same region as the last, a very small, peculiarly-shaped antrum and a crescent-shaped cell which opens into the superior meatus.

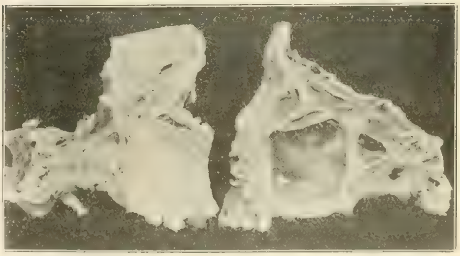

Figure 29.

Plate 28 is from the left side of another skull showing two sinuses. The posterior one passes around the posterior border to the external surface of the anterior sinus.

The bony septum of this specimen might very easily be looked on as a division dividing the antrum into two; but I would not thus classify it, as this posterior sinus also opens into the superior meatus, as do the others.

It is a well-established fact that the maxillary sinus is developed by an invagination of the mucous membrane of the middle meatus into the body of the superior maxillary bone. If we should have two of these invaginations from the meatus, I could easily accept as a fact that these cells were a divided maxillary sinus; but as the outlet of the posterior one is into the superior meatus, and, as the cells of the orbital process of the palate bone open into the superior meatus, I claim that this is an enlarged palatal sinus or cell and not a divided maxillary sinus.

Plate 29 is another section made through the molar teeth and the center of the orbit. Posterior to the maxillary sinus we find another sinus of a different character, and, to judge by superficial observation, it might be said that it was related to the maxillary sinus or those belonging to the palate bone. When passing a probe into this it leads into the supreme or fourth meatus of the nose, showing that it is related or connected with the sphenoidal sinus. In fact, it is a very large sphenoidal sinus extending out laterally in a line almost to the outer parts of the maxillary band.

Plate 30 gives a view of the external wall of the nasal fossa of the same skull, the sphenoidal sinus in the right hand picture extending outward until it passes into the opening posterior to the maxillary sinus in the preceding slide. It will be observed that this large sphenoidal sinus extends well forward toward the frontal bone and backward to the basilar process of the sphenoid bone.

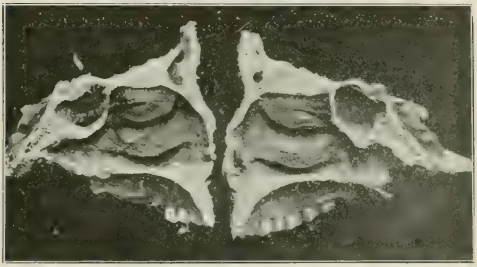

Figure 30.

Plate 31 gives an outer and inner view of the same section. In the right picture the cut is made passing through the premolar teeth and a little to the inner side of the middle of the orbit, exposing the inner wall of the maxillary sinus, the cell of the palatal bone, and the sphenoidal sinus, over which will be seen the sella turcica.

In the anterior clinoid process it will be noticed that there is a triangular opening which leads into the sphenoidal sinus; in the left picture the external wall of the nose will be observed, and in the region of the body of the sphenoidal bone a very large sinus at the bottom of which will be noticed a space under the sella turcica shown in the right picture.

By the illustrations shown it has been noted that we have many marked variations in the general character of the bony structures. It is evident that there must be some general principles underlying these changes. It may be well to define certain laws that influence them.

At the commencement of the growth of the embryo, and continuing throughout life, there are two forces constantly acting on the body, known as the intrinsic and extrinsic. If these two forces be normal in strength and application throughout fetal life, the result will be a fully developed child; but if these forces be interfered with in any way by lack of nourishment or undue external pressure, the child will not be of a normal physique.

If for some reason there is an insufficient quantity of lime-salts assimilated into the bony tissue, the bones will be soft and will not give proper shape to the body, they being the framework, such as the steel framework is to our lofty buildings. The brain-case is liable to enlarge when intrinsic growth forces out the soft yielding structure, while, on the other hand, an over-amount of calcic salts will harden the bone, and cause it to resist the intrinsic forces and prevent them from giving proper shape. At times the deposit of lime-salts will close up the sutures of the brain-case and absolutely prevent the expansion of the brain. Microcephalic skulls are sometimes caused in this way. By the use of the surgical engine, artificial sutures have been made which allow the brain to extend, as these sutures permit the case to expand.

The slopes and forms of the skull of the various races are influenced by the growth of the brain. In other words, the brain, by its intrinsic forces acting on the bone-tissue, will cause the skull to develop according to the character of the individual or race. If the anterior lobes of the brain are of large size, the forehead will be carried upward and forward; if, on the reverse, the cerebellum is large, the occipital region extends backward with a low receding forehead.

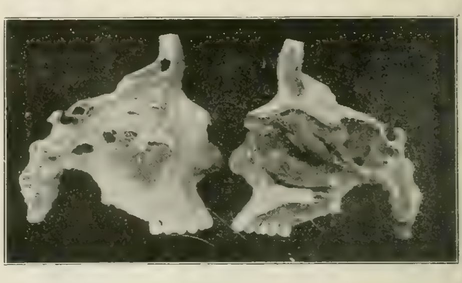

Figure 31.

After the birth of the child muscular action and various forces have direct influence over the change of the shape of the bones, according to the following general laws:

The normal application of forces to developing bone results in the normal development of the form of the bone. The abnormal application of forces under the same circumstances results in the development of an abnormal form. Abnormal applications of forces to bone in adult life will also change and modify the shape and character. The bones becoming changed, the whole body is modified according to the change in the bone tissue.

It is to be understood that the factor behind these anatomic variations leading to symmetric development is necessarily nutritional. Some logical interference with normal nutrition has brought about functional disturbance of a part, and this in turn a corresponding modification of anatomic form.

Professor Lubarsch of Rostock, Germany, has been placed in charge of the department of pathologic anatomy in the new State Institute of Hygiene at Posen.

EPORT OF CASES OF PULMONARY TUBERCULOSIS, TREATED WITH INTRAPLEURAL INJECTIONS OF NITROGEN, WITH A CONSIDERATION OF THE PATHOLOGY OF COMPRESSION OF A TUBERCULOUS LUNG.*

BY A. F. LEMKE, M.D.
CHICAGO.

At the last meeting of this ASSOCIATION, in Denver, r. J. B. Murphy, in his oration on "Surgery of the ung," called attention to the principles which underlie e healing of tuberculosis in general, and more particu- rly as they apply to the healing of foci of this disease the lung. He referred to the statistics of Osler, Bol- nger, Massini and Harris, who found evidence of old berculosis in from 7.5 to 39 per cent. of those who died om other causes than tuberculosis. It will be seen that is exceeds the percentage of deaths due to tuberculosis. rom a careful consideration of conditions that enhance d favor healing of pulmonary tuberculosis, such as fre- ent cure of the disease, when it becomes complicated th serous pleurisy, empyema or pneumothorax, either tural or artificial, and the retraction of the chest wall at results from contraction of the diseased lung which es hand in hand with the process of healing, the con- usion was certainly justifiable that artificial collapse d compression of the lung must aid the natural forces nstantly at work in an effort to suppress the disease. f the three methods of obtaining pulmonary quies- nce, or collapse, viz.: extrapleural pneumothorax; oracoplasty and intrapleural injections of fluid or gas, r. Murphy chose the last, and used, in his original ex- eriments, chemically pure and sterilized nitrogen. orlanini, at the meeting of the International Medical óngress at Rome in 1894, spoke very highly of the prin- ple of lung compression, and reported some cases of berculosis of the lung that were cured as a result of neumothorax, and suggested that on account of its slow sorption nitrogen would be the best gas to employ. t the time of his report at Rome, he had not used nitro- en. The principal effect of lung compression for tuber- losis has been observed by scores of clinicians two or ree centuries, but the applicability of the principle has een practically neglected. At the Denver meeting five ses were reported in which the intrapleural nitrogen jections had been employed to collapse the tuberculous ng.

It may be well to call attention again to some of the inical experiences and pathologic findings that suggest e idea of artificial compression of a tuberculous lung. early all our text-books on the practice of medicine eak, though briefly, of the improvement of pulmonary berculosis that often ensues when this disease is com- licated by pleurisy with effusion and empyema or pneu- othorax. Dr. H. M. Hughes[1] reports a case that is ery instructive in this respect, which I shall cite briefly:

"Miss P., aged 26, had lost one brother from tubercu- sis; a year ago had an attack of hemoptysis, followed by ough with expectoration. When first seen the expector- tion was blood-streaked; there was pain in the right side f the chest, and urgent dyspnea on exertion. The phy- cal signs pointed to a lesion at the right apex. Attacks f pleurisy on the right side subsequently occurred. hree months later she was found by Dr. Hughes to have a right pneumothorax with succussion splash. There were then no signs of disease in the left lung. Five months subsequently paracentesis on the right side was performed, three pints of turbid fluid were removed, and the operation was repeated after another interval of two months. Recovery followed with partial re-expansion of the right lung. She died eighteen months after the discovery of the pneumothorax. Post-mortem: The left pleura was firmly adherent; the left upper lobe was softened throughout, and caseous tubercles were found in the lower lobe; the right pleura contained thirty ounces of thick purulent fluid; calcified tubercle was found in the right upper lobe, and a cavity containing white chalk-like substance separated from the surface only by thickened pleura."

It will be noted, from the consideration of this case, that the long-continued compression which was exerted on the right lung had resulted in the calcification of the tubercles, and that death occurred subsequently from an involvement of the opposite lung. Osler states that pneumothorax developing in the course of pulmonary tuberculosis seems to arrest the progress of the tuberculosis. Such references as "Pneumothorax, with pulmonary tuberculosis: recovery" are quite numerous as we look over the medical literature, and it would be a mere repetition of what I have already said were I to cite these cases.

Fütterer[2] reports a case in which the pneumothorax was due to rupture of the pleura pulmonalis of a tuberculous lung, and states that he "decided to wait some weeks to allow the patient to recover somewhat from the severe nervous shock he had experienced and to gain some strength as well as to permit the perforation to heal up, if a healing process could be established and to put the supposed tubercular changes of the lung under the beneficial influence of edema and hyperemia, which are both present to a high degree in a collapsed lung, and which no doubt are powerful means of destroying the tubercle bacilli."

It is evident that Fütterer believes the hyperemia and edema of the lung are the elements which are inimical to tuberculosis in the lung tissue. He calls attention to the fact that tuberculosis of the lung has but seldom been observed in conjunction with stenosis of the mitral valve which brings about a chronic hyperemia and edema of the lung with red and brown induration. Whether hyperemia and edema of the lung tissue is actually present after collapse and compression of the organ certainly is somewhat doubtful, and we shall have more to say concerning this in discussing the pathology of lung compression. The case reported by Fütterer is cited here, inasmuch as after careful and prolonged treatment of the pneumothorax by substituting a weak aqueous solution of oil of cloves for the air, the patient steadily improved, and, symptomatically, at any rate, he was considered cured some months after the onset of the pneumothorax.

It has been repeatedly maintained and proved that pleural empyema is curative of tuberculosis of the lung. It is estimated that 83 per cent. of all cases of empyema that develop in adults are the result of primary pulmonary tuberculosis. Of 134 uncomplicated cases of empyema operated by Koenig, Cabot and Runeberg[3], 7 remained with fistulæ and were incomplete cures; 4 died and 9 were lost sight of before the cure was complete—all the others recovered from their tuberculosis as well as their empyema. This certainly speaks forcibly for the curative effect of compression on the tuberculous lung. These favorable results are not so commonly observed in cases of pleurisy with serous effusion that complicate tuberculosis of the lung, if we judge from the work of Eichhorst on pleurisy[4]. Are we to consider that the presence of pus in the pleural cavity has a more favorable effect on tuberculosis in the lung than the serous effusion, or must we look elsewhere for an explanation for the higher rate of recoveries when empyema is the cause of the compression? Pleurisy with effusion is apt to come on quite early in the course of the pulmonary tuberculosis, and, by American physicians, at least, it has until recently been maintained that in the majority of these cases the disease of the pleura is primary, and consequently, when this class of cases recovered it was not supposed, when the pulmonary symptoms followed many months or years later, that a cure of tuberculosis which very likely existed in the lung primarily might have been effected by the compression to which it was subjected. Eichhorst, in 1895, attempted to settle this question of primary pleurisy, so long in dispute, and made a series of inoculative experiments in guinea-pigs, from which he concluded that 65.2 per cent. of all cases of so-called idiopathic pleurisy are tuberculous; Eichhorst states that bronchial glands are very probably more frequently responsible for the dissemination of the disease on the pleura than a focus of latent disease in the lung tissue itself. After having observed these cases for some time, it was found that after some months, or even years, they were readmitted to the hospital with symptoms of pulmonary tuberculosis. It has, however, been frequently observed in active and even advanced cases of pulmonary tuberculosis which were subjected to pressure of simple serous effusion that a patient's condition immediately improved, the cough diminished or disappeared, there was a marked gain in weight and strength, diminution in the number of bacilli in the sputum, and finally entire absence of cough. I shall report one such case that occurred in our own practice quite recently. If it be true that pleurisy with effusion is not so frequently followed by a cure of primary pulmonary tuberculosis as is the case with empyema in the adult, it is certainly due to the fact that the effusion is soon absorbed, and, therefore, the lung is not compressed long enough to enable the cicatrizing process to circumscribe the disease. In cases of pleurisy with effusion and in empyema complicating tuberculosis of a lung, tapping or drainage should not be resorted to unless special indications arise. Recognizing the value of maintaining the pulmonary compression, Dr. Murphy has for years insisted on refraining from early operations in these cases. In empyema the compression of the lung is maintained for a much longer time, and, indeed, is sometimes permanent on account of the marked pleural thickening and adhesions, which prevent the re-expansion even of the healthy parts. After these cases have been operated on, the cavity from which the pus was evacuated is obliterated by the retraction of the chest wall on the one hand, and the partial expansion of the lung on the other hand. No doubt if the compression by simple serous effusion were to continue and enable the diseased areas to cicatrize completely, the lung might be allowed to unfold, after the absorption of the fluid, without any special risk of further activity of the disease.

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* Presented to the Section on Practice of Medicine, at the Fiftieth nnual Meeting of the American Medical Association, held at Columbu- hio, June 6-9, 1899.

Let us ask ourselves, in this connection: How does compression of the lung increase its capacity for circumscribing and finally obliterating tuberculosis? Unless our hopes for the antitoxin treatment of tuberculosis are finally realized we shall be obliged to attack this disease more or less indirectly by merely aiding the individual, and his lung tissue in particular, to resist the dissemin tion of the disease in the lung, and to render inert t foci of the disease already existing in the tissues. T quote Dr. Roempler[5]: "Upon the ability of the orga ism to resist depends finally the possibility of cure. T increase this power of resistance, through gradual blun ing of the susceptibility to irritation, through the in provement of the nutrition and quality of the food, a finally through the avoidance of hurtful influences, a through instruction and training for future guidance, the principal problem of the phthisio-therapeutist." tuberculosis is active for a time, even though it be n extensive, it very often follows that a mixed infecti with various pyogenic organisms results. It is this th represents the element of danger in that it increases t amount of innocuous secretion, and favors a dissemin tion of the disease throughout the lung. It is usually n the tuberculosis per se that kills, but the mixed infecti which, in advanced cases, goes hand in hand with it.

So far as the histologic changes are concerned, the co ditions that favor a healing of tuberculosis in the lu are quite identical with those that we meet with in mo tissues. A cavity in the lung, whether it be large small, can scarcely be expected to heal readily when think of the physical conditions that are present in a about such a diseased focus in the lung. If we me with such a condition in other organs, we almost imm diately resort to some surgical means by which the o posing walls of a cavity can be brought in appositio or nearly so, and at the same time insure physiologic re of the part. We do not expect a wound in the skin heal unless we bring about apposition of its lips, and th is one of the first principles of surgery. If we me with an old osteomyelitic cavity in a tibia, for instanc which is lined with infected granulation, we do not e pect it to fill up with scar tissue, or bone, unless we ma some effort to approximate the opposite walls, or fill t defect with some substance which will form a mechani support. If this absence of proper mechanical conditio be so detrimental in such a structure as a bone it scarcely to be expected that a cavity in a lung, in whi there is continually an activity of the parts, will he without them. It is a well-known fact that empye cavities which have been opened and drained fail to he when mechanical conditions are not such that the che wall can be retracted, or the lung expanded, sufficiently admit of the approximation of the two pleural surface and surgeons never hesitate, under such conditions, employ some form of thoracoplasty to bring about th desired effect. Lungs that have been extensively i volved in tuberculosis, or other diseases which destr tissue, when repaired, show a contraction of the che wall which is commensurate with the amount of tiss destroyed.

The question is suggested: How shall we account f these experiences that we meet with clinically and path logically, which go to show that when a tuberculous lu is compressed by pneumothorax and empyema, or a se ous effusion, there is a marked improvement of the tube culosis? It has been suggested that the intoxication, the pleural irritation, may, in some peculiar way, a upon the tuberculosis advantageously, much the same it has been suggested that a malarial infection is anta onistic to it.

I do not wish to be understood that the collapse of tuberculous cavity is the only thing to be desired, and is quite evident that compression exerts a favorable i fluence on the disease in the lung in many respects. obstructs mechanically the various avenues by which th fection is transmitted to other parts of the lung, the ost important of these being the bronchi and the air- sicles. Lymphatic circulation, which is next in im- rtance to the air circulation in propagating tuber- losis to other parts, is also interfered with, and, ac- rding to some pathologists, it is the lymphatic circula- n that plays the most important part in spreading this sease. When its function is suspended, the lymph culation in any organ is interfered with. Späth[16], in article "Über die Beziehungen der Lungencompres- n zur Lungentuberculose," cites an interesting case this connection. In a case of miliary tuberculosis of lungs, one lobe escaped infection entirely, and it had en compressed by pleuritic exudate. In the lungs, as other tissues, toxic materials are carried into the gen- l circulation through the medium, principally, of the nphatic system and when this lymph circulation is in- fered with, absorption is consequently proportionate- diminished. If cavities exist in the lung that are not surrounded by connective tissue walls they always ntain more or less of the secretion from which some ic absorption is continuously going on. The lung, e a sponge, may be emptied of these secretions by rting sufficient pressure upon it; at least these secre- ns are forced into the bronchi, where, as a result of the itation, they are readily expectorated. This is very en demonstrated on the operating-table during the ection of nitrogen. It is not uncommon to have pa- nts expectorate unusual quantities of these secretions ring, or immediately after, the operation. The ele- nt of physiologic rest of the organ involved probably ys some part in the process of repair; that it does in er tissues can not be disputed.

The rationale of pulmonary compression for tuber- losis is well put by Tidey[6] in an article in which he sets th the value of immobilizing, as much as possible, the rax on the affected side. "In health the respiratory pacity of the lung is commensurate with the semi-cir- mference of the thorax. The diseased lung may be re- rded as decreased in bulk, so far as function is con- rned, by the amount of lung tissue involved, and it fol- vs that the best mechanical condition of respiration uld be secured by reducing the thoracic cavity in pro- rtion to the reduced bulk of lung. Natural processes repair tend to secure these conditions, but only lead complete cicatrization when the disease is of a limited tent. We find then, clinically, a flattening of the est wall, dislocation of adjacent organs or hypertrophy the opposite lung. In so far as the inflammatory ment in phthisis is concerned, rest and relaxation of inflamed tissues seem indicated and essential to healing process. The English schools aim at de- oping the latent resources of the lung so as to com- nsate for the loss of the respiratory surface." Tidey o states that in cases in which the attempt of develop- the latent resources of the lung have been successful, e finds an immense development of the base of the ng with an extensive cavitation toward the ex. The cavitation is a constant source of nger, while the hypertrophy does not neces- ily secure proportionately increased aëration of blood, cause the latter depends on range of movements as ll as unaffected respiratory area. With permanently creased circumference of the lower thorax there must cessarily be decreased range of motion. Such cases ggest how much better it would have been if the com- nsatory hypertrophy had extended inward instead of tward, so as to have invaded and occupied the exca- ted region. Tidey emphasizes the fact that pleuritic effusions frequently lead to amelioration of the lung affection in phthisis. He also sums up the advantages of mechanical support as follows: 1, in early stages—catarrhal stage—to give comparative rest and relaxation to lung tissue; 2, in the stage of consolidation to secure the same results, thereby limiting the risk of extension and to promote elimination of the diseased products by improving the circulation in and about the diseased area and to facilitate expectoration; 3, in the stage of cavitation, to promote the closure of cavities by directing healthy lung to encroach on diseased areas, instead of relying entirely on natural processes of cicatrization; 4, diminished tendency to hemorrhage by reduced tension on vessels and cicatricial tractions on walls; 5, the ultimate object is to obtain a smaller thoracic cavity filled with healthy lung instead of an enlarged thoracic cavity partly filled with diseased lung.

It would appear from the results of experiments on dogs that when air is injected into the pleural cavity it is quite rapidly absorbed. This would tend to discourage the idea of attempting compression of the lung by means of intrapleural injections of nitrogen. Unverrich[7] demonstrated, by means of chemical analyses of the air injected into pleural cavities of dogs, that the different gases are absorbed with varying degrees of rapidity—oxygen disappeared first, then carbon dioxid, and at last the nitrogen. When he irritated the pleura sufficiently to produce a serous exudate, the absorption of the latter was also quite rapid, but slower than the absorption of the gas. This seems to have been the universal experience of experimenters along this line. I have found no record of experiments made with pure nitrogen. In connection with the first case injected with nitrogen, that was reported by Dr. Murphy at Denver, it was demonstrated by repeated physical examinations and by radiography that the lung remained collapsed something over two months. In the other cases, reported at that time, the absorption of the gas took place somewhat more rapidly, and it has been our experience since that in the majority of cases the absorption at the end of three and one-half to four weeks has progressed sufficiently to make the breath-sounds audible.

From the experiments of Unverrich we learn that the oxygen and the carbon dioxid are absorbed much more rapidly than the nitrogen, and, according to Fowler and Godlee, when a pneumothorax results from perforation of the pleura pulmonalis, the air in the pleural cavity has the same composition as that in the alveoli: N, 79.5; CO$_2$, 4.38; O, 16. When the opening is closed, and it has been long present, the oxygen disappears and the carbonic acid and nitrogen relatively increase in quantity. From clinical observations in cases of natural as well as artificial pneumothorax it is evident that the rate of absorption depends, aside from the chemical composition of the gas, on the state of the serous membrane and on the pressure which the gas exerts upon it. Hydrothorax may disappear rapidly or very slowly, depending on the condition of the pleura and the circulatory system. In simple serous effusions a point is reached when the pressure on the pleura becomes so great that it would seem absorption were practically impossible and it is a well-known clinical fact that after the removal of a comparatively small amount of fluid, absorption may go on quite rapidly. This has been accounted for by supposing that the relief of the immense pressure permits of the opening of the points of absorption. The gas may be absorbed in much the same way, and it is possible that the condition of the pleura, and degree of distension of the cavity, may govern the rate of absorption.

Before beginning the citation of cases it will be well to consider the technic of the operation of intrapleural injections, and to discuss the immediate effects on the patient, and the possible accidents that may occur in connection with the procedure. The selection of the cases, for the purpose of excluding those in which the disease is too advanced, the determination of the existence of a pleural cavity, are probably the most difficult in the whole procedure, and are of the utmost importance. From our experience in the dead-house one would be led to believe that a goodly portion of all cases of tuberculosis is associated with more or less adhesive pleurisy, but our clinical experience has been that we were forced to abandon the operation in but small proportion of the cases selected. There is no infallible method for the determination of this point. The diminution or absence of respiratory excursion and retraction of the chest wall are highly suggestive, but are sometimes met with when no adhesions exist. No doubt some of the cases that have been injected have had attacks of pleurisy which resulted in friable or band-like adhesions. It has occurred that during the progress of the gas injection the patient has complained of severe pain in a circumscribed area definitely located and which sometimes suddenly disappear. This would indicate the possibility of severing some of the adhesive bands.

In the selection of cases from the standpoint of the quantity and extent of tuberculous changes it is difficult to come to positive conclusions. We have long since regretted that some patients have been refused operation on account of the extent of the disease. I believe some of them might have been saved, if I judge from the results in other advanced cases. I shall have occasion to refer to this again in dealing with the reports of these specific cases. The earlier treatment is begun in pulmonary tuberculosis, the better the prognosis. This is true with all methods of treatment. Every physician realizes that a disease in the apex of the lung will yield more readily to treatment than a lesion at the base, and that circumscribed foci are more readily affected favorably than scattered areas, even though the actual quantity of lung tissue involved in the latter does not exceed that in the former. H. P. Loomis[8], in a very able article, entitled "Certain Points of Interest in Phthisis," speaks of various constitutional conditions that are to be considered in the prognosis of tuberculous patients. He states that patients who have continuously more or less gastric symptoms, and who, therefore, are deprived of their greatest barrier to tuberculosis, do not usually progress favorably. Patients who have very early in their disease a rapid pulse which is not dependent on an elevation of temperature are usually not favorable cases. Phthisis developing in old age is frequently latent for some time and very often chronic. The fibroid diathesis is a favorable condition. Hemoptysis should not affect our prognosis. The element of heredity does not materially, if at all, handicap a patient's chances for recovery. He also refers to the fact that the location of the disease in the lung is quite important in determining the chances of recovery, and refers to the effect of compression on tuberculosis in the lung. He says: "I have seen a number of these cases—tuberculosis at base of lung—and also advanced cases of ordinary apical tuberculosis, suddenly start to improve, and the patient, from being in a desperate condition, became comparatively well, this change following upon the filling of the chest cavity on the affected side with effusion, the result of tuberculous pleurisy." Having in mind the favorable effect of compression, Loomis experimented with cocoa butter, sterilized plaster of Paris, etc., but he either failed to produce sufficient exudate to compress the lung or infected the pleural cavities.

I do not attempt to state specifically what constitutes a suitable case for the compression treatment, and I have already stated that the earlier the cases the better the prognosis, no matter what method of treatment is selected. Several of the cases that I shall report were very aggravated, and the question of the applicability of the injection to these cases was extremely difficult to decide

For the operation the patients are put on the table, the skin in the neighborhood of the fifth and sixth interspaces, from the sternum to the post-axillary line, is carefully prepared, and the needle, which is an ordinary spear-pointed aspirating needle, is inserted in the fifth or sixth interspace, in about the anterior axillary line or slightly farther back, particularly when the left side is injected. It is important, after the needle is inserted and before the tube is attached, to assure one's self that the point of the needle is in the pleural cavity, and this is done by instructing the patient to take a series of deep inspirations when, if the needle be within the pleural cavity, a current of air can be heard to rush into it. If the needle has entered the lung, as it will when the two pleural surfaces are adherent, there is a slight current of air through the needle during forced expiration, and frequently a little frothy blood will appear. After several deep inspirations, if a little air has entered the pleural cavity, there will be a current during both phases of respiration. Sometimes, even though the mouth of the needle be within the pleural cavity, it is found that the current of gas meets with considerable resistance This has frequently been noted in experiments on animals, and is due, undoubtedly, to the fact that the current of gas, unless much pressure be used, impinges upon such a small area of lung surface that it is not sufficient to overcome the cohesion that exists between the two layers of the pleura, which has been estimated at 12.5 mm of mercury. As soon as a small quantity of gas has entered, the pleural surfaces are slightly separated over a comparatively small area, but sufficiently so that the inflowing gas under a slight pressure impinges on a greater surface of the lung and aids its natural elasticity to overcome the cohesive force which helps to maintain a condition of distension. As soon as the current is well started, unless some adhesions are present, from one to five cubic inches of gas enters the pleural cavity with each inspiration. The quantity of gas that can be injected depends on the presence or absence of adhesions the amount of infiltration in the lung tissue, the condition of the heart and the size of the pleural cavity. In an individual of average size, if no adhesions are present, eighty cubic inches of gas constitutes the minimum quantity that may be expected to collapse the lung. The maximum quantity that I have been able to inject is 170 cubic inches. The immediate effect of this artificial pneumothorax is to increase the number of respirations, to diminish the pulse-rate, and to dislocate the heart. Weil and Thoma[9], in an experimental study of hydrothorax and pneumothorax, demonstrated that in closed pneumothorax and in hydrothorax, with movable fluid, the minute-volume of respiration is increased There is an increase in the excretion of carbon dioxid and the respirations are increased in frequency. If a considerable quantity of gas has been injected, there is occasonally a slight tendency to syncope, the pulse becomes slow and feeble and there is marked pallor Sackur[17], in an experimental study of pneumothorax demonstrated by careful measurements that after one ung is collapsed by a pneumothorax, the other respires s much air as did both together. The cough and expectoration are usually increased immediately after the peration as the result of the expression of the secretions rom the lung, and in cases where cavities have been ompressed enormous quantities of purulent material re expectorated during and immediately after the opertion. It is well to leave the needle in position for a ew minutes after the current is turned off, so that a mall quantity of gas can be withdrawn if the tendency o syncope is marked or the pain severe. The wound s sealed with collodion and, in order to avoid the escape f the gas into the subcutaneous cellular tissue, a tightly vound roller bandage is laid over the wound in the interostal space and held in position with a long strip of dhesive plaster. This acts as an intercostal splint, and revents the escape of the gas, which, without it, is someimes considerable, extending into the cellular tissue of he neck so as to interfere more or less with respiration nd deglutition.

Of the possible accidents that may occur in connection vith the operation may be mentioned: 1, gas embolism; , wounding of the intercostal vessels; 3, pulmonary emorrhage from puncture of the lung tissue; and 4, vounding of the pericardium in the event of its being istended.

Case 1.—Mr. G. E., aged 32, applied for examination, Aug. 5, 1898. His family history is negative. He has coughed nore or less during the last five years. The disease began vith an attack of acute bronchitis. He has lost little weight. t present he coughs and expectorates yellowish mucopurulent aterial several times during the day. He has been examined y many physicians, and a diagnosis of tuberculosis has been ade by the majority of them. The sputum was found to ontain tubercle bacilli in moderate quantity. He was advised change climate and he used the ordinary antituberculous emedies. Examination of the chest shows the expansion to e good. There is slight dulness over the right apex, râles re heard over the right upper lobe. August 28, tubercle acilli were found in the sputum. With this history and hese physical signs, I prescribed for the patient and advised hat he wait developments. I then lost sight of him until ec. 9, 1898. He then stated that he had gradually grown orse; he coughed a little more and expectorated more freely; ad little fever and no night sweats. There was dulness over e apex of the right lung and slightly impaired resonance ver the entire upper lobe. Expiration was harsh and proonged; numerous crepitant râles during inspiration. Bacilli ere again found in sputum. Dec. 16, 1898, 115 cubic inches nitrogen was injected into right pleural cavity: breathounds not completely suppressed over upper lobe. Pulse 80; esp. 20; temp. 99 F. December 28, gas almost entirely aborbed; crepitant râles over right apex diminished; has ained one pound, otherwise no change. Feb. 15, 1899, second jection of nitrogen. April 1, weight 137 pounds—an inease of eight pounds since first injection. Very slight exectoration in the morning; no fever; appetite good. There e very few dry râles over right apex; breath-sounds are a ttle harsh. Patient has been at work during the entire time treatment.

Case 2.—Mr. W. S., aged 30, was examined Sept. 1, 1898. here had been no tuberculosis in his family. He has been ck since Christmas, 1897; began then to cough and expectore, and has gradually grown weaker and has been unable to ork since June 1. His weight at present is 129 pounds, ormal weight 160. He has high fever and night sweats. xamination revealed dulness, crepitant and submucous râles d signs of cavity in left upper lobe, scattered râles in right per lobe. Sputum contains great quantities of bacilli.

September 23, 40 cubic inches of nitrogen was injected into e left pleural cavity. There was considerable dyspnea folwing the operation. October 6, patient states he has gained o pounds since the operation, that he feels stronger and that s appetite is good. He still coughs a great deal at night: ght sweats are less severe. October 28, he has gained four d one-half pounds since first examination; has night sweats ly occasionally. There are still some signs of cavity in the ft upper lobe.

This was a desperate case when treatment was instituted; his pulse at that time was 140; temp. 102.2; respiration 28. Three weeks later this patient developed an acute pneumothorax from rupture of a tuberculous focus and succumbed to the infection of the pleural cavity about two weeks after the accident.

(To be continued.)

PRIMARY TESTICULAR MUMPS.*

BY LANDON B. EDWARDS, M.D.

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So constant is the primary seat of mumps in the parotid or other salivary glands that the disease is remarkably free of other synonyms than parotitis or parotiditis. In practice, however, we are familiar with its metastasis from its usual seat to the testicle in the male, or to the mamma or ovary in the female. But the condition to which this paper refers is rare—so rare indeed, that most text-books make no reference to it. Hence, it is worthy of note that I have met with several cases of *primary testicular mumps.*

My attention was first called to the subject some fifteen or more years ago by a case seen with the late Dr. F. D. Cunningham of Richmond. Other cases of primary testicular mumps occurred during that otherwise ordinary epidemic of parotitis. Verbal reports were made of some of the cases to the Richmond Academy of Medicine, but the records are lost and I am unable to find that other publication of the facts was made. The cases then seen, so far as I recall, were among employees of some of the larger tobacco factories of the city. While details of those are obscured by the lapse of time and the loss of notes, it is remembered that none of the cases referred to could be traced to a prior attack of gonorrhea, local injury or other cause for epididymitis or orchitis. The cases were followed up as to results, but no atrophy nor evidence of impairment of function followed.

An endemic of parotitis prevailed in Richmond during the winter of 1898-99, extending well over into the spring months of this year. During this period, four cases of primary testicular mumps came under my care —all of them since the middle of January, 1899. Three of the four cases were in young men of fairly good health, who were medical students in the University College of Medicine. The fourth case was a young man who boarded in the house with one of these students. Other patients with ordinary epidemic parotitis were in the boarding-houses with these students; but their attacks of parotitis ran the usual course without noticeable incident worthy of record.

In none of the four cases just referred to could the most exacting inquiry elicit the history of impure intercourse, or of recent venereal disease, nor was there history of injury or traumatism about the generative organs. In short, there was no recognizable cause for any disease of the contents of the scrotum—beyond the prevailing influence of epidemic mumps; nor had these patients had a previous attack of parotitis. There was a sameness in the clinical history of these four cases that makes a general description of the disease as it occurred in one a sufficient record for the others.

Chilly sensations running up the back, followed rapidly by rise of temperature—in one case reaching, in a few hours, about 103 F.—marked the onset. Besides an almost coincident development of headache and nausea, enlargement, hardness and tenderness of the testicle set in. In three, the left testicle was decidedly more affected than the right; in the fourth case, it was hard to say which testicle was most affected. There were diffused lumbar pains in all the cases, and in one case the pain was so severe and peculiar that varioloid was suggested. In each the testicle was enlarged, hot and painful before the end of the first twenty-four hours after invasion.

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*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

During the second and third days after this enlarged, painful, feverish condition of the testicle began, a noticeable amount of swelling developed about the salivary glands—principally the parotids—which were sore on opening the mouth or on pressure from without; but there was no abatement of the testicular trouble. The headache, lumbar pains, fever and nausea continued. The affected testicle continued to increase in size—in one case reaching about three times its normal dimensions, and yet without material involvement of the epididymis, vas deferens, or other structure of the part. By the sixth day, the general signs and symptoms began to abate, and disappeared by the eighth or ninth day, so far as manifestations of the infection were concerned. In a few days more the enlarged tender testicles and the soreness extending up into the abdomen along the course of the spermatic cords gradually abated until recovery occurred. During the course of the disease, there was no urethral discharge, no bladder irritation, no evidence of suppuration anywhere, nor did the involvement of the epididymis leave any sign of permanent change in structure.

While the neck glands became secondarily involved in three of the cases, in only one case were the signs of parotitis at all prominent; and that case would have been spoken of as a mild case of mumps had it not been for the severe primary testicular involvement. In none of the cases were the testicular signs or symptoms modified when the salivary glands became secondarily affected. In each case effort was made, but without effect, to "draw the disease" to the neck glands—as the term is commonly used—by poultices, hot applications, etc.

As to treatment, guaiacol was used in two of the cases reported, without benefit; but phenacetin, with salol and digitalis, relieved much of the discomfort. Tobacco poultices over the testicles, and afterward absorbent cotton wet with 15 to 20 per cent. solutions of ammonium chlorid applied on the scrotum, and rest in bed relieved pain and hastened recovery. Of course, suspensory bandages for the testes, etc., were used. No impairment of function seems to have resulted in any of the cases.

I have referred at such length to these cases of primary testicular mumps because they are rare and do not find sufficient recognition in the books. Such cases occur in some epidemics of parotitis and not in others. Comby[1] noted cases of febrile orchitis without parotitis during an epidemic of mumps. Morton[2] described other cases under the name of "febris testicularis." Some military surgeons have described cases under the name of "rheumatoid orchitis," "primary infectious orchitis," etc. Kovacs reported two cases of orchitic mumps without parotitis. Laveran admits that orchitis may constitute the only manifestation of mumps. In the epidemic of 1832 at Chateauroux there were cases of orchitis without involvement of the parotid gland. The same was observed during the epidemic in Geneva. Desbarreaux-Bernard reported several cases of this abnormal form of mumps. During the epidemic of parotitis in Dantzig, of 29 soldiers having orchitis, 19 had no parotid swelling. Rizet, Boyer, Debize, Vidal, Jacob, Sorel, Laveran, Chauvin, Servier, and others have reported similar cases.

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[1] Twentieth Century Practice of Medicine, vol. xiii, p. 582.

[2] Ibid.

SHOCK, HEMORRHAGE AND SEPTICEMIA.*

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In tabulating the symptoms of shock and hemorrhage, we usually note the following: An expressionless countenance, pallor, with corresponding coldness of face and mucous membrane, and clammy skin, often slight or profuse sweats, chilly sensations, irregular heart action, with weak, irregular, thready, often imperceptible pulse, and irregular sighing respiration.

These two conditions, shock and hemorrhage, or rather their symptoms, are so intimately associated that I will not take time mentioning the slight variations or the local conditions found in hemorrhage alone.

In the symptoms of septicemia we at first find the essential signs of fever, with often a full, bounding pulse; but later we get the feeble, less regular pulse, sighing respiration, clammy skin with slight or profuse sweats, countenance expressionless, or expressing great concern, the secretions from the bowels and kidneys scanty, and as regards these symptoms they are all due to a vasomotor paralysis, either through direct action on the heart, as from hemorrhage and septicemia, or from a reflex action which is more commonly the cause in shock.

The treatment I recommend is the intravenous injection of normal salt solution, not particularly in shock and hemorrhage, but in septicemia. The subcutaneous injection of this solution is familiar to all, but I am quite certain that the treatment of septicemia by intravenous injection is rare. I never saw it mentioned until an editorial in the Journal, Dec. 31, 1898, and acting on the suggestion, I performed the operation, followed by what I consider brilliant results.

The modus operandi, which I will explain later, is somewhat different from that used in simple intravenous injection.

A young woman, 29 years of age, came under my observation Feb. 23, 1899, suffering from general septicemia. She gave a history of having had a chill daily for four days previously, undoubtedly septic in character, followed by a high temperature. An hour after I saw her she had another chill, with temperature 102.2. This was at 10 a. m. At 4 p. m. it was 104, at 9:30, 104.2, and at this time I used the solution. One hour afterward her temperature was 103.8, the next morning, 100, later going down to 99.8, but again going up to 100. Two days after the operation, the temperature taken at different times, was 99, 98.2, 99, 98.6, and 100; the following day, 99.4, 99, 99, 98; the next day, 98, 99, 99, and 98.

Going back for a moment to the day of the operation, the temperature gradually increased from 102.2 to 104.2, at which time I operated. It fell almost immediately after the operation. From that time on her temperature did not go above 100.2, and her general condition was also greatly improved. I might add that she had no chill after the operation.

Another case was that of a young man, aged 19, who came under observation March 11, 1899. He had had a chill that morning, and on examination showed a fairly typic case of typhoid. Treatment was as in the first case.

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*Read before the Will County Medical Society, April 4, 1899.

The first two days, March 11 and 12, the temperature and pulse were: Temperature, 103.4, pulse 100; temperature 103.6, pulse 104; temperature 102, pulse 112; temperature 103.6, pulse 120; temperature 105, pulse 120. We gave him frequent cold baths, but with very slight results, the temperature failing to decrease more than 1 to 1.5 degree after each bath. It would remain stationary a short time, then gradually increase again. March 12, at 4 p. m., his temperature had reached 105, and he was in the stage of collapse, pulse and respiration very rapid and feeble, and he showed every sign of impending dissolution. I then did the same operation as in the first case, with the following result: Two hours after the operation the temperature had gone down two degrees; at eight o'clock, four hours afterward, it was normal, and at midnight 97.6. It remained between 98 and 99 for the following two days. On the third day it went a little above 100, but finally went back to normal, and remained so throughout the remainder of the illness.

The method of operating is as follows: I first froze a small area over the right basilic vein, with ethyl chlorid, and exposed the vein through an incision about three-fourths of an inch long. I ligated the vein at the distal end of the incision, and put a temporary loop over the vein just above the other. I next proceeded in the same manner on the left arm, except that I ligated the proximal end, putting a temporary loop around the distal end. While doing this, I had the nurse prepare 1500 c.c. of normal salt solution, at a temperature of 104 degrees. I now snipped the right vein with the scissors, between the two ligatures, and inserted the pipette, which was attached to the tube leading from an irrigating bag containing the salt solution. At the same time, I had the assistant divide the vein in the left arm, so as to allow the deteriorated blood to escape, while I injected the salt solution into the right arm. In the case of septicemia I allowed 350 c.c. of blood to escape, and injected 750 c.c. of solution. Had I allowed more salt solution to enter the circulation, I believe the result would have been still more gratifying. In the case of typhoid, I allowed 500 c.c. of blood to escape, and injected 1500 c.c. of salt solution. After finishing the injection, I tightened the temporary ligatures on each vein, closed the incisions by two small sutures, and sealed them with collodion. Strict asepsis was observed throughout the proceeding.

The effect on the pulse in both cases was immediately very noticeable. Before the operation it was weak, small and rapid, but before it was at an end it became full, steady and slower, and, on inquiry, both patients said they felt considerably better.

While I have but the two cases to report, I believe the results warrant its trial in every case where our ordinary methods fail. Not only do I believe it applicable in such cases as the two I described, but in all severe cases of septicemia, typhoid, malaria, uremia, or any condition in which the blood is charged with toxic material. The operation is a comparatively safe one, and can be performed by any one having ordinary surgical skill.

No other treatment was instituted in these two cases, as I wished to study the effects of this form of treatment, nor was the local condition in the one case, from which the septicemia originated, disturbed.

The intravenous injection for shock and hemorrhage is too frequently neglected, and I believe many cases could be saved, were it resorted to. The subcutaneous method of injection is too slow in a large percentage of cases, for when called for at all, the heart is usually very weak, and the absorbing power of the body is so poor that the salt solution is either not absorbed at all, or else so slowly as to be of no benefit to the patient. The intravenous method does not take a much longer time for its performance than does the subcutaneous method, while its effects are very much more rapid and certain.

Therapeutics.

Cold Baths in Delirium Tremens.

Maurice Lettulle, in *La Presse Medicale* of July 8, 1899, describes the case of a man, 33 years of age, admitted to the Hospital Boucicaut with a severe attack of delirium tremens, which had begun four hours before. At the time the patient was in intense excitement, but was capable of answering questions. The muscles of the trunk were in constant tremor, and the limbs were thrown about with great violence. A camisole was applied, which, instead of calming, seemed to aggravate the excitement. The temperature on admission was 104.5 F., and the face and extremities were cyanosed. Seven hours after the beginning of the attack he was given a cold bath of 64.4 F. He remained in the bath for thirty minutes, and at the end of that time suddenly passed into a state of collapse, with the pulse remaining at the same rate as when he entered the bath, 108. In the meantime the temperature had fallen to 92.6. This was ten minutes after the bath had been given. From this extremely low point the temperature gradually improved until twelve hours after the bath had been given, when it was normal. The patient did not have a return of the delirium. The author enters into a consideration of the literature of the treatment of delirium tremens by cold baths. He regards it as a distinct improvement on the use of opium, chloral, or digitalis. The bath in the case described was administered for too long a time, but he thinks it is justified in these very grave cases, and in the case in question it was followed by a lowering of the temperature and a disappearance of the delirium.—*Medicine.*

Acute Coryza.

Often, especially when the attack is accompanied by aching pains, or other evidences of a general cold, a free sweat is useful:

R.	Antipyrin	gr. xv
	Pilocarpin hydrochlorate	gr. ½
	Tinct. aconite	gtt. viii
	Aquæ	℥iss

Take a tablespoonful, immediately followed by a general or foot-bath (10 minutes); then, the patient being covered in bed, one dessertspoonful in a tumbler of hot toddy, repeated, if no sweating occur, in 20 minutes. When there is pain, if morphin does not disagree with the patient 1/6 grain may be added to the mixture.—*H. C. Wood, in Wood and Fitz's Practice of Medicine.*

Boas' Medical Treatment of Fissure of the Anus.

Ten out of twelve cases have been cured by Boas with a simple medical treatment founded on complete immobilization of the anal region. The patient remains a week in bed with no food except light broths, taking ten drops of tincture of opium three times a day, and thus insuring absolute constipation. If the fissure is visible, it is dusted with iodoform or calomel, but without touching it with hand, instrument or dressing of any kind. At the end of eight days a large dose of castor-oil is administered, cautioning the patient not to allow defecation until the feces are entirely liquid, and to refrain from the slightest effort. The fissure is usually healed by this time, but some cases require a second or third week of treatment. The method only fails when it is impossible to secure complete retention of the feces.—*Semaine Med.*, September 13.

Gelsemium Sempervirens.

Dr. N. P. Barnes maintains that this drug should receive more attention because of its great therapeutic value. One-fifth of 1 per cent. is the average amount of alkaloid in the severed root, and constitutional effects are regularly obtained from the standard fluid extract. Gelseminine, the alkaloid, is a non-crystallizable dry mass, white, alkaline, insoluble in water, but soluble in alcohol, ether, and chloroform. There are several unofficial preparations, but the official fluid extract and tincture are very satisfactory. The drug is antispasmodic, antipyretic, antineuralgic, antimalarial, analgesic, hypnotic, and diaphoretic. Through its direct action on the spinal cord, dulling and paralyzing mobility and sensibility, it is a nervous sedative and depressant. The third, fourth, fifth, and sixth cranial nerves and those supplying the genito-urinary organs are especially affected. Reflex excitability is first increased and then diminished, and finally exhausted. Small doses, one-half to one minim of the fluid extract, relax the general nervous system, relieve nervous irritation and muscular tension. Large doses, one to five minims, cause langour, enfeebled muscular action, impair sensibility, dilate the pupils, cause ptosis, and excite diaphoresis. Effects of moderate doses disappear in three hours. Toxic doses (ten minims or more) produce vertigo, diplopia, ptosis, mydriasis, prostration and muscular relaxation, partial paralysis of sphincters, respiration, and lastly, heart failure. Antagonists are small doses of opium, or morphin and atropin. Six to eight hours elapse before a toxic dose is fatal. It is indicated in conditions of exalted nerve function, mental excitation, and muscular tension. Early in fevers it is antipyretic and sedative. As a succedaneum to quinin in malaria it is of value, relieving the unpleasant effects of the former. The head symptoms in a commencing "cold" are dissipated in a few hours. In la grippe gelsemium controls the fever, headache, pains, and restlessness. Pain of a neuralgic or rheumatic character is relieved by this drug where there is arterial excitement or local congestion. In tic douloureaux it is almost specific. Coccygodynia is often cured, and in sciatica gelsemium is useful, but not curative. Ovarian neuralgia and uterine colic (?) are efficiently treated with it. Headaches, neuralgic, congestive or periodic, are promptly relieved. With sodium bromid gelsemium is a most efficient hypnotic. Muscular spasms, such as epileptic and hysterical convulsions, are relieved. To prevent erections and chordee in gonorrhea, gelsemium is invaluable. In catarrhal cystitis, irritable bladder, and incontinence of urine from spasm of muscular fibers gelsemium is excellent.—*Maryland Med. Jour.; Am. Jour. Med. Sciences.*

Rectal Feeding.

The following enema is suggested by Boas, when rectal alimentation becomes necessary:

R. Milk .... ℥viii
Salt .... gr. xxx
Claret .... ℥ss

To this add prepared cereal food 1 tablespoonful and the yolks of two eggs. Use one to three in 24 hours.

Painless Injections of Grey Oil.

Guaiacol will render painless intramuscular injections of grey oil, oil with calomel, and especially oily solutions of biniodid of mercury, frequently employed for a long time in the treatment of syphilis. E. Bazin of Bordeaux regards it as sufficient to incorporate with the preparation to be used 3 per cent. of the purified drug. Here is the formula which Dr. Lagrange recommends in his supplementary course on ophthalmology in the Bordeaux Faculty of Medicine:

Sterilized olive oil .... ʒxx
Mercury biniodid .... gr. vi
Synthetic guaiacol .... gr. xxxvi

Should the physician inject every day, or every second day, in the region of the thigh, say thirty grains of this solution, it will represent about one-quarter of a grain of the biniodid of mercury. It is a well-known fact that mercury salts, and particularly iodin-mercury preparations can not be combined with cocain without precipitating the latter and rendering it useless as an anesthetic. All such remedies for hypodermic use will probably work well with guaiacol.—*Merck's Archives.*

Scarlet Fever.

J. Lewis Smith recommends the following "diaphoretic, diuretic and laxative" mixture for scarlatinal nephritis:

℞. Potassii acetatis
Potassii bicarbonatis
Potassii citratis, āā .... ʒii
Infus. tritici repentis, ad .... ℥viii

A teaspoonful every three or four hours for a child of 5 years.

Whitla gives the following diaphoretic mixture in the early stage of scarlet fever:

℞. Spirit. etheris nitrosi .... ʒii
Potassii citratis .... ʒi
Liq. ammon. acet. .... ℥iss
Syrupi simplicis .... ℥i
Aquæ camphoræ, ad .... ℥iv

M. Sig. A teaspoonful every three hours.

Widerhofer recommends the following for scarlet fever with diphtheric throat affection:

℞. Potassii chloratis .... gr. xx
Syrupi aurantii .... ʒiii
Decoct. cinchonæ, ad .... ℥iii

M. Sig. A teaspoonful every two hours.

℞. Potassii chloratis .... ʒi
Aquæ .... ℥xii

The diphtheric spots to be also touched with pure lactic acid.

THROAT SPRAY.

Whitla uses the following spray for the throat in scarlet fever:

℞. Glycerini boracis .... ʒiv
Glycerini acid. carbolici .... ʒiii
Aquæ rosæ, ad .... ℥x

SKIN LOTION.

J. Lewis Smith recommends the following lotion for the itching of the skin in scarlet fever:

℞. Acidi carbolici .... ʒi
Tinct. camphoræ .... ℥ii
Aquæ puræ .... Oi

M. Sig. Shake well, and apply over surface when needed for pruritus. —*The Practitioner.*

Urticaria.

Mr. Skinner, pharmacist to the Great Northern Hospital, recommends the following formula for allaying the itching, burning sensation of urticaria:

℞. Liquoris hamamelidis .... ℥ii
Salis maris .... ℥ss
Aquæ destillatæ, ad .... Oi

To be applied freely.

He also speaks highly of the following cold cream:

℞. Adipis benzoati .... ℥iv
Ceræ albæ .... ℥ss
Cetacei .... ʒi
Boracis .... ʒss
Glycerini .... ʒi
Aquæ cologniensis .... ℥iiss

—*Therapeutic Gazette.*

Treatment of Parotitis.

Avoid exposure, which, in the case of boys, may favor metastasis to the testes. Mild cathartics. Liquid diet.

℞. Tinct. belladonnæ
Tinct. aconiti
Tinct. opii, āā .... ʒiv

M. Sig. Apply several times daily over the swelling with the finger tips or a camel's hair pencil.

Or

℞. Ichthyol
Plumbi iodidi, āā .... gr. xlv
Ammonii chloridi .... gr. xxx
Adipis .... ℥i

M. Sig. Apply three times daily and cover with a cotton-wool dressing.—*Trouchet.*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Journal of Medical Sciences, October.

1.—*Surgical Treatment of Tumors within the Spinal Canal. James T. Putnam and J. Collins Warren.
2.— A Fifth Case of "Fungus Foot" in America. J. T. Arwine and D. S. Lamb.
3.—*Some Facts in Regard to Aneurysm of the Aorta. H. A. Hare and C. A. Holder.
4.— Report of a Case of Hodgkin's Disease, Showing Long Periods of Fever. Cunningham Wilson.
5.— A Case of Acute Gangrenous Pancreatitis, with Fat Necrosis. J. A. Scott.
6.—*Diagnostic Value of the Wintrich Tracheal Sound. C. F. Hoover.
7.— Splenic Pseudoleukemia (Amenia Splenica; Splenomegalia Primitive) with Report of a Case. Bertram W. Sippy.
8.— Perforation of the Stomach in an Infant Seven Weeks Old. T. M. Rotch.
9.— A Critical Summary of Recent Literature Concerning Some Recently Described Reflexes. Joseph Sailer.

Pennsylvania Medical Journal, September.

10.— Address in Medicine. J. C. Lange.
11.—*The Mechanical Treatment of Ptosis. E. B. Heckel.
12.— Some Clinical Observations on Diseases of the Skin. John V. Shoemaker.
13.—*Four Cases of Carcinoma of the Breast Treated by the Cataphoric Method. G. Betton Massey.
14.— Puerperal Septicemia. G. W. Wagoner.
15.—*Intoxication from Toxalbumins and other Toxins. Mary McD. Shick.
16.— Diphtheria in the Rosella Foundling Asylum and Maternity Hospital of Pittsburg. Adolph Koenig.
17.— A Case of Myxedema. Edward H. Small.
18.— Tuberculosis Following Typhoid Fever. F. U. Ferguson.
19.— Relapse of Typhoid Fever. L. H. Mayer.
20.— The Diagnosis of Mild Cases of Smallpox. W. D. Haight.

St. Louis Medical and Surgical Journal, October.

21.— Occasional Periscope of Antenatal Pathology. J. W. Ballantyne.
22.—*LaGrippe; Its Manifestations, Complications and Treatment. W. W. Grube.

Interstate Medical Journal, September.

23.—*A Case of Perforated Os and Lacerated Perineum—Two Operations—Recovery. Herman E. Pearse.
24.—*The Sternberg-Sanarelli Controversy in Regard to the Bacillus Icteroides as the Specific Micro-organism of Yellow Fever. R. B. H. Gradwohl.
25.—*Diphtheritic Pneumonia. M. Dwight Jennings.
26.—*An Interesting Case. Frank M. Floyd.
27.— The Motor Neuron and Its Practical Unity in Diagnosis. John Punton.

The New Orleans Medical and Surgical Journal, October.

28.— Esophagoscopy—Its Application in Two Cases. Gordon King.
29.— Bile and Putrefaction in Intestinal Acholia. Otto Lerch.
30.— Hematoma of the Neck, Simulating Common Carotid Aneurysm. Felix A. Larue.
31.— Leprosy in St. Mary's Parish. Three Cases. Isadore Dyer.

Laryngoscope (St. Louis, Mo.), September.

32.—*The Offending Middle Turbinal. Edwin Pynchon.
33.—*Fibrinous Rhinitis. D. J. Gibb Wishart.
34.—*Acute Septic Rhinitis of Childhood. Lewis S. Somers.
35.— Parasitic Affections of the Pharynx. Ellet Orrin Sisson.

Cleveland Journal of Medicine, September.

36.—*Anastomoses Between Various Portions of the Alimentary Tract. Dudley P. Allen.
37.— Report of a Case of Epithelioma. F. E. Bunts.
38.— A Case of Complete Prolapse of the Uterus; Hysterectomy. Hunter Robb.
39.—*Ludwig's Angina and Certain Forms of Cervical Suppuration. C. A. Hamann.
40.—*Tones and Murmurs Heard by Auscultating the Oral Cavity. Harrison G. Wagner.

Hot Springs Medical Journal, September.

41.— Infantile Syphilis. T. Henry Jones.

Ophthalmic Record (Chicago), September.

42.—*Albuminuria and Its Relation to Diseases of the Eye. Alex. W. Stirling.
43.— Penetration of an Eye with a Rusty Twenty-penny Cut Spike. Wm. C. Bane.
44.—*Blindness from Drinking Methyl-Alcohol. H. Gifford.
45.— Convenient Apparatus for Testing the Color Sense. S. Mitchell.
46.— Capsular Cataracts. H. Beckles Chandler.
47.—*Strabismus or Squint: A Theory and Treatment. Francis Valk.
48.— Correction of Divergent Strabismus by a New Method and New Instrument. D. Milton Greene.

Louisville Monthly Journal of Medicine and Surgery, September.

49.—*Errors of Refraction and Accommodation, and the Hygiene of Vision. M. L. Heffiefinger.
50.—*Paroxysmal Tachycardia. Shelby C. Carson.
51.— Pus Tubes and Their Radical Treatment: Report of a Case. R. Lindsey Ireland.
52.—*Treatment of Primary, Non Surgical and Recurrent Cancer. Wilbur F. Sterman.
53.— Lavage of the Stomach. J. T. Green.

Medical Age, September 25.

54.—*The Art of Diagnosis. A. L. Benedict.
55.—*Tuberculosis and the Throat. W. F. Strangeways.

Kansas City Medical Record, September.

56.— Remarks on Brain Lesions Following Infective Middle-Ear Inflammation, with Special Reference to Symptoms and Briefly as to Operative Measures. B. E. Fryer.
57.— Inflammation of the Female Breast. H. E. Pearse.

St. Paul Medical Journal, October.

58.— Smallpox. Frederick Leavitt.
59.— Events in the History of Medicine. Franklin Staples.
60.—*A Case of Left-sided Appendicitis, Complicated by Intestinal Obstruction. Wm. E. Ground.
61.— Aneurysm. C. H. Mayo.

The Toledo Medical and Surgical Reporter, October.

62.— Some Neglected Facts in Human Biological History. David P. Jackson.
63.— Alkaloids and Accuracy, or Galenicals and Guess Work. J. R. Landers.
64.— Stomach Troubles and How to Relieve Them. G. G. Thornton.
65.— The Perineal Body. Byron Robinson.
66.— Retroperitoneal Abscess Simulating Morbus Coxarius or Hip Disease. O. Main.

Obstetrics, September.

67.—*Obstetric Teaching. James Clifton Edgar.
68.—*Placenta Previa. Thomas H. Baker.

Annals of Gynecology and Obstetrics, September.

69.—*The Conditions under Which We Are to Select the Vaginal Route in Preference to Abdominal Section. John Sprecht.
70.—*Dermoid Cysts of the Ovary. Crawford E. Fritts.
71.—*Some Causes of Maternal Dystocia. R. E. Cutts.
72.— Rhachitis. Henry N. Potter.
73.— Medicinal Treatment of Diphtheria, Other than with Antitoxin. Edwin M. Fuller.

The Medical and Surgical Monitor, September 15.

74.— Varicocele. W. H. Link.
75.— Points in the Treatment of Typhoid Fever. Allison Maxwell.
76.— Brief Facts About Cathartics. Samuel E. Earp.

The Canadian Journal of Medicine and Surgery, October.

77.—*Presidential Address at Thirty-second Annual Meeting of Canadian Medical Association, Toronto, 1899. Irving H. Cameron.
78.—*Christian Science. J. H. Richardson.
79.—*Typhoid Infection without Lesions in the Intestines; a Case with Remarks. A. McPhedran.
80.—*How to Deal with the Consumptive Poor. E. J. Barrick.
81.—*Fibrinous Rhinitis. D. J. Gibb Wishart.
82.— Results Already Achieved at the Muskoka Cottage Sanatorium. J. H. Elliott.

The Medical Fortnightly, September 15.

83.— Physiology. A. L. Benedict.
84.— Scattered Leaves From a Physician's Diary, No. 9.—A Patent Medicine. Albert Abrams.

American Journal of Surgery and Gynecology, September.

85.—*Neuroses Sometimes Following Oöphorectomy. W. E. B. Davis.
86.—*Surgical Complications of Typhoid Fever. Hugh M. Taylor.
87.— Myomectomy in a Pregnant Uterus for Obstruction to Labor. Geo. H. Noble.
88.— Carcinoma Uteri Following a Cervical Laceration. August Schachner.
89.— Trephining for Traumatic Epilepsy. W. O. Roberts.
90.—*Fracture of the Ribs. Edward Borck.
91.— The Use of the Curette in Removing Adherent Placenta, with Report of Three Cases. Walker Bourne Gossett.
92.— Operation for Gunshot Wound of the Abdomen. Recovery. Ap Morgan Vance.
93.— A Memorial of a Prominent Western Gynecologist. John M. Allen.
94.— Vaginal Operation for Relief of Pelvic Disease. William H. Wathen.
95.—*Is Iodoform a *Sine Qua Non* in Gynecology? G. Howard Thompson.
96.— Inflammation of the Lining Membrane of the Maxillary Sinus. Wm. F. A. Schultz.
97.— Treatment of Endometritis. Wm. A. B. Sellmann.

The Medical Herald, September.

98.—*The Limitations of Digestive Practice. A. L. Benedict.
99.— Typhoid Fever. Wm. Francis Mitchell.
100.— Perspiration—Night Sweats—Some Thoughts. Ben. H. Brodnax.
101.— Inflammation of the Knee-Joint. Herman E. Pearse.

New York Medical Journal, October 7.

102.—*Report of Five Cases of Scoliosis and One Case of Flat Foot Treated by the Teschner Method. Louise Erich.
103.—*Acute Suppurative Processes in the Faucial Tonsils. J. L. Goodale.
104.—*Tonsillar and Circumtonsillar Abscess. George A. Leland.
105.—*The *Amœba ciliata* in Disease. Henry Gereon Graham.
106.— Purpura Rheumatica. Remarks. Two Cases in the Extremes of Life. W. L. Johnson.
107.—*Primary Lesion of Tuberculosis: How Located. W. H. Weaver.

Medical News (N. Y.), October 7.

108.—*Further Observations on Treatment of Congenital Dislocation of the Hip. Royal Whitman.
109.—*Sanitaria in Treatment of Tuberculosis. Vincent Y. Bowditch.
110.—*Vaginal Celiotomy; Its Scope and Limitations. J. Riddle Goffe.
111.— Fracture of the Femur; Convalescence Complicated by an X-Ray Burn. J. C. Stinson.

AMERICAN.

1. **Spinal Tumor.**—Putnam and Warren report three cases of spinal tumor operated on with more or less advantage, and review the history of this condition. The number of cases published operated on amounts to 33, not including the cases of pressure paralysis following Pott's disease or Starr's case of extradural tubercular tumor. Of the 33 operations, 7 recoveries are reported, and 10 where more or less improvement followed, though in only 5 of these was the improvement permanent. Two of the recovered cases are insufficiently reported to allow us to be sure as to the outcome, and in one other case, a sarcoma, the eventual result is perhaps uncertain. In 10, possibly 12, cases operation seems to have hastened death from meningitis, septicemia, hemorrhage, shock, etc. In 9 cases the operation seemed to have little effect either way. The best results were in 3 cases of fibroma, one each of psammoma, lipoma and sarcoma, and in 2 of echinococcus. In no case has operation been done apparently on a mistaken diagnosis. The range of surgical possibilities and the prognosis of these cases are difficult questions. It is probable that, as a rule, the prospect is better when the paralysis develops slowly, and it is sometimes a puzzling question to decide whether or not operation is justifiable. The authors discuss the localization of symptoms, and allude especially to the newer studies of Head on the areas of sensibility.

3. **Aneurysm of the Aorta.**—The paper by Hare and Holder is a careful study of the cases of aortic aneurysm in medical literature, especially those of the ascending arch, the causes, symptoms, etc. In conclusion they call attention to the following facts, which they think are noteworthy: 1. The far greater frequency of this lesion in males than in females. 2. The far greater frequency in involvement of the ascending portion of the arch than of the other portions. 3. The fact that aneurysm of the transverse and descending portion of the arch seems to be about equally frequent. 4. That in a large proportion of cases death did not ensue from rupture, but from pressure by the growth. 5. That syphilis does not seem to play so large a part as an etiologic factor as is usually supposed, although the evidence is negative rather than positive, since it is possible that many of the cases which are assigned to trauma as the cause are really dependent on syphilis, in that this disease had primarily weakened the aortic wall so that injury readily brought about aneurysm.

6. **The Wintrich Tracheal Sound.**—Under certain pathologic conditions the vibrations of percussion-stroke will be communicated to the large bronchi and involve the column of air in the trachea, causing two sounds to be conducted to the examiner's ear, one from the thorax through the atmosphere and another through the trachea and nostrils or open mouth. Wintrich found that while the mouth was open the percussion-note over cavities became more clear and tympanitic and higher in pitch, the pharynx acting as a resonator over the column of air in the trachea. The implication of the column of air in the trachea can be recognized with closed mouth when the examiner will compare the sound transmitted directly through the air to his ear with that heard when the ear is close to the patient's nostrils. The sound heard at a distance is dull, high in pitch, and short in duration; that at the nostrils is tympanitic, high-pitched and longer. This modification is not noticeable with light percussion over the base of the consolidated lung because of the distance from the large bronchi, but by striking a firm blow with the palmar surface of the ends of the metacarpal bones, the tracheal sounds can be demonstrated with infiltrated base of the lung, provided the bronchi are not stopped. It may be of service sometimes in differentiation between pulmonary consolidation and pleurisy with effusion. Hoover has never seen it in the latter. In a normal adult, percussion over the upper sternum will not give the tracheal sound, but if the medium between the sternum and the trachea is increased in consistency, we will have a clear tracheal tone. He reports several cases where this was of service in diagnosis, mostly of mediastinal disease. There are certain precautions necessary in testing these signs. The chin should be elevated, the patient be instructed to take a deep breath and continue it after the thorax has reached the height of its excursion, thus keeping the vocal cords apart and permitting the passage of sound and air through the trachea. The patient should be told to hold his mouth open, with tongue protruded, and the examiner should percuss gently over the manubrium, with the ear directly before the patient's mouth. When the tracheal sound is present, it is recognized by its characteristic metallic resonance and issuance from the mouth. Even inexperienced investigators can recognize it. The tracheal sound is produced by percussion over the upper portion of the sternum whenever there is a solid or liquid mass which will communicate the percussion vibrations to the bronchi. This will occur in mediastinal tumor, aneurysm of the ascending arch of the aorta, and pericarditis with effusion, provided there is a sufficient amount of fluid to distend the pericardial cul-de-sac over the origin of the large vessels at the base of the heart. The tracheal sound from percussion of the manubrium is not present in consolidation or cavity of the upper lobes of the lungs, nor is it present in pleurisy with effusion. In searching medical literature, Hoover can nowhere find any mention of this sign in connection with tumor of the mediastinum. It has been of considerable service to him in differential diagnosis. It should be of assistance to the surgeon in determining as to the advisability of operation on tumors of the neck.

11. **Mechanical Treatment of Ptosis.**—Heckel describes a device for keeping up the fallen upper lid, and illustrates it with figures showing its effect. It is simple in construction, consisting merely of a bent gold wire which can be soldered to any spectacle frame. The final adjustment must be made by the attending surgeon, so as to secure accuracy and comfort. On account of its elasticity, it not only enables the patient to wink, but also to close the eye. It is not irritating, as shown by the length of time and constancy with which it has to be worn.

13. **Cataphoric Treatment of Carcinoma of the Breast.**—Massey reports four cases of carcinoma of the breast treated according to his method of nascent mercuric and zinc oxychlorids developed within the growth by a powerful electric current, the patient being under an anesthetic. These substances are developed by electrolysis from metallic mercury and zinc inserted into the tumor, the pure mercuric salt requiring the use of a gold electrode to diffuse it. The result, he claims, is a radiation of those powerful protoplasmic poisons, by cataphoresis, in all directions from the electrode to distances readily determined and controlled. The method consists of an electric interstitial diffusion into, through and beyond the cells of the malignant growth, of chemical substances fatal to the germs of cancer, causing an area of total destruction corresponding in limits to the apparent limits of the growth, surrounded by a zone of infiltration reaction within which colonies and prolongations not evident to the senses are destroyed without harm to the healthy tissue. After the reading of his paper a lively discussion occurred between the author and Dr. W. W. Keen in regard to the method, the latter believing it ineffectual and leading to delusive hopes.

15. **Toxalbumins.**—The following are the conclusions of Dr. Shick's paper: 1. Bacteria themselves are not always essential to the production of diseases resembling those ordinarily produced by micro-organisms. 2. All soluble poisons produce similar lesions. 3. It is possible, under natural conditions, for an individual to become poisoned with the toxins, exclusive of the bacteria. Generally, however, this does not occur. In drinking-water, the poison is well diluted; in foods, we do not, as a rule, eat those in which putrefaction has progressed sufficiently for the toxin to have been developed. 4. The trend of present experiments would seem to indicate that a special antitoxin for each toxin is not necessary; but, rather, some substance which in all cases will act as a stimulant to the lymphoid tissues of the organism. 5. Considering the similar symptoms and lesions of all intoxications, one general line of treatment may be followed, to be modified to suit individual cases.

22. See original paper in this Journal, March 25, p. 649.

23. **Imperforate Os and Lacerated Perineum.**—Pearse here reports a case of complete closure of the os following childbirth, relieved by operation and subsequent operation for perineal tear.

24. **Yellow Fever.**—The Sternberg-Sanarelli-Novy controversy is discussed by Gradwohl, who concludes that the weight of opinion goes to support Sanarelli's claims.

25. **Diphtheritic Pneumonia.**—Jennings reports a case of pneumonia developing on an apparent laryngeal diphtheria, with very severe symptoms, and treated by the injection of 2000 units of antitoxin, with success. Examination and inoculation experiments of the secretions coughed up showed virulent Klebs-Loeffler bacilli.

26. **Mercurial and Iodoform Poisoning.**—The case reported by Floyd was supposed to be syphilitic gangrene, but from the results of treatment and other facts, he concluded that it was a very aggravated case of mercurial and iodoform poisoning.

32. **The Offending Middle Turbinal.**—Pynchon here describes the conditions due to pressure from hypertrophy of the middle turbinal, to which he credits largely hay fever and asthma, and possibly also hydrorrhea. He describes an instrument which he has devised for trephining the part, and illustrates it.

33. **Fibrinous Rhinitis.**—The significance of fibrinous rhinitis as an infectious and non-infectious condition is here described by Wishart, who reports 7 cases, in 5 of which he found the diphtheria bacillus. He concludes his paper as follows: "It would appear that observers of this interesting disease thus fall readily into three classes: 1. Those who consider diphtheria and fibrinous rhinitis to be distinct diseases. 2. Those who consider there is but one disease, but that the degree of contagiousness varies, so that we may safely neglect to isolate such cases where no clinical and bacteriologic evidences of diphtheria are to be found. 3. Those who would isolate every case. In view of the fact that cases possessing a membrane bacteriologically innocent have apparently communicated diphtheria to others, are we not warranted in thinking that the Klebs-Löffler bacilli were really present somewhere? If so, we are forbidden thereby to abandon the isolation of these cases until a series of bacteriologic examinations have been made, which practically means until the disease itself has disappeared. In conclusion, we may fairly consider that the accumulated evidence proves the following points: 1. Fibrinous rhinitis and diphtheria are not distinct diseases. 2. All cases of fibrinous rhinitis need the same precautions as to isolation that diphtheria requires."

34. **Acute Septic Rhinitis of Childhood.**—Somers believes that the septic rhinitis of children in this country is due in the majority of cases to implantation of the ordinary pus-organisms and not to specific infection. He describes a case, and speaks of the general symptomatology and treatment of the disorder.

36. **Anastomoses of the Alimentary Tract.**—Allen discusses the subject of the relief of disordered conditions, obstructions, etc., of the alimentary tract. In case of non-malignant pyloric stenosis he favors Loreta's operation or the longitudinal incision rather than anastomosis. When anastomosis is necessary, we should avoid the more complicated operations which may lead to unpleasant adhesions, besides requiring more time and being more difficult. He speaks with favor of the proposed operation of Von Hacker, which seems to avoid these dangers, and he prefers suture to the mechanical appliances, such as the Murphy button, when it is practicable. In anastomoses between the intestines and stomach the posterior wall is the preferable location. Anastomoses between the gall-bladder and intestines are, in his opinion, rarely required, and if done are liable to produce infection of the biliary tract. Intestinal anastomosis for intussusception is rarely required, and in cases where the condition is so advanced as is often the case he prefers to make an artificial anus rather than an anastomosis. The point that he would especially make is to imitate nature so closely as possible.

39. **Cervical Suppuration.**—Hamann describes Ludwig's angina and notices its treatment, and calls attention to the peculiar form of cellulitis described by Reclus in 1896, and called by him "woody phlegmon." It is characterized by an extensive induration of the anterolateral region of the neck, slow in progress, without fever or constitutional symptoms. The ordinary signs of an acute abscess are absent, and it is evidently a chronic inflammatory process.

40. **Oral Auscultation.**—Wagner calls attention to the value of auscultating the oral cavity, which he thinks is best done by having the patient close the lips firmly about the bell of the stethoscope and stop breathing at the end of a passive expiration, then compressing the nostrils, the physician having previously adjusted the ear-pieces of the instrument. He tabulates the results of his observations of 100 cases, and, judging from this, he concludes that when the normal tones as they occur in the large vessels are heard in the mouth they have no special significance except that they are intensified by the presence of mediastinal changes, and tumors favor the sounds. The diastolic murmur is found only in aortic insufficiency, and must be transmitted from the aortic arch to the bronchus and not from the valves. The systolic murmur is heard only when there are evidences of aneurysm or dilation of the aorta involving the arch. He considers both the systolic and diastolic murmurs when heard in the mouth as of importance as an aid in diagnosis. The venous murmur of chlorosis is not heard in the mouth.

42.—See abstract in Journal, May 13, p. 1061.

44. **Blindness from Methyl-Alcohol.**—Gifford reports a case, to add to the few already published, of blindness caused by the ingestion of wood alcohol. The blindness was permanent. Other cases occurred in the same neighborhood. The ophthalmoscopic examination showed marked optic atrophy. He does not agree with Holden's view, that the blindness is due to disturbances in the retinal ganglion cells, but considers it a primary affection of the optic nerves.

47. **Strabismus.**—The theory of Valk is that strabismus is due almost entirely to disturbances of the balance of power of the straight muscles, and that innervation or position of rest has nothing to do with it. He divides strabismus into two classes. In the first, amblyopia, always congenital, is the prime and sole cause, vision less than 20-100 associated with a normal balance of power in the lateral moving muscles. Hence, with the loss of fusion power, or the guiding sensation, the eye quickly turns in the direction of the most powerfully acting muscle, namely, the internus in convergent squint, and the externus in divergent squint. In the second class we have some refractive errors, either hyperopic or myopic, with or without an astigmatism, and with this a weakness of some of the straight muscles of the eye. In the first class the best we can do is to produce a cosmetic effect. In the second we have to correct the refraction and then decide on the operation. Each case must be carefully studied by itself, and education of the squinting eye will be of great value.

49. **Errors of Refraction.**—Hefflefinger describes the common ocular defects requiring correction by glasses, and states that the first use of lenses for correcting vision was by Charles II of England. He insists on the danger of relying on opticians in the selection of glasses.

50. **Paroxysmal Tachycardia.**—This paper is made up of a description of several cases that have recently occurred in the practice of the author. In all relief was quickly obtained by strychnia and morphin and nitroglycerin injections and the use of other sedative mixtures and relief to the loaded bowel. The general treatment which he recommends is the use of bromids, valerian, and other antispasmodics and the curative treatment directed to the removal of the cause.

52. **Treatment of Cancer.**—The most notable point in Sterman's paper is his advocacy of the remedies of hereditary cancer doctors.

54. **The Art of Diagnosis.**—In this paper Benedict reviews the various methods of diagnosis, especially the modern ones so largely depended on, and points out certain errors that are liable to be committed and that have been committed in the past. He concludes with a plea for a common-sense spirit in diagnosis that will lead from symptoms to immediate cause and will stop there unless other circumstances warrant the drawing of more general conclusions.

55. **Throat Tuberculosis.**—Strangeways lays stress on a pallid appearance of the pharynx and dull gray aspect of the larynx, with faulty approximation of the cords, as an especially valuable sign of incipient tuberculosis. As regards tuberculosis of the larynx, he thinks that its frequency is about one in five cases of the disease, most common in men and rarely appearing in children. Its prognosis is bad; we have not conclusive evidence of a dozen cures altogether, and treatment is necessarily palliative. Constitutional treatment is required, according to the best judgment of the practitioner. Local

treatment consists in spraying, swabbing, cauterizing and curetting. He has had no experience with cauterizing, and does not advise it. Menthol applied with a swab is an excellent application, relieving pain and stimulating. Silver nitrate has been a favorite, but lactic acid is now more in fashion. Cocain or orthoform may be necessary at times, when other remedies fail, or for making the application of remedies possible.

60. **Left-Sided Appendicitis.**—Ground reports a case in which the colon was dislocated, and the long appendix caused the abscess to be on the left side, and a fatal septic peritonitis killed the patient. He points out that the interest of the case is in the matter of diagnosis. We are so accustomed to localizing appendicitis in the right iliac region that we hardly look for it elsewhere; we must bear in mind that anomalous and complicated forms do sometimes occur. He lays great stress on nausea as a symptom, and thinks its absence goes a long way toward dispelling the diagnosis of active appendicular lesions.

67. **Obstetrical Teaching.**—The subject of instruction in obstetrics is discussed by Edgar, who makes a special point of insisting on the principle of *primum non nocere*.

68. **Placenta Previa.**—Baker reports five cases of placenta previa, two occurring in primiparas aged 24 and 31 years. In both cases the condition was fatal, though in one case one of a pair of twins survived. The mothers made tedious recoveries.

69. **The Vaginal Route in Pelvic Operations.**—The author here points out the conditions in which he would preferably employ the vaginal route in operation. Thus, in cases of prolapsed uterus, not curable by plastic, perineal or vaginal operations in a fleshy woman past the menopause, he prefers vaginal hysterectomy to an abdominal hysterectomy or ventrofixation. He would also use this operation in cases of cancer of the cervix or body in its early stages. He makes a vaginal incision in preference to an abdominal in dealing with many pelvic adhesions that require cutting operations. He prefers it also in the early stages of ruptured ectopic pregnancy. He reports the last case of this kind, where he operated by the abdominal route with bad results. He prefers the vaginal route in dealing with pelvic infections when pus accumulations exist low down in the pelvis. He makes a vaginal incision in every case of pyosalpinx before trying abdominal enucleation, and he would use it always in the treatment of abnormal Graafian follicle and corpus luteum cysts.

70. **Dermoid Cysts.**—Fritts reports a case of dermoid cyst of the ovary in which a portion of the contents escaped into the abdominal cavity, without bad results. The patient was 11 years old.

71. **Causes of Dystocia.**—Some of the common factors in the production of dystocia are discussed by Cutts, such as an obliquity of plane of superior-strait pelvis to axis of the body; lordosis of lumbar vertebræ, more especially the undue prominence of the last lumbar vertebra; condition of the pubes; obliquity of the plane of the pubes to the plane of the superior strait of the pelvis; length of the pubes and sub-pubic ligament; thickness of the pubes. The treatment of the condition in which engagement of the presenting part is interfered with should be version as soon as the cervix is sufficiently dilated. If delay is practiced, the membranes rupture, and the uterus contracts on the fetus in such a way as to make version impossible and dangerous, and a high forceps delivery is required. He reports here two cases representing some of these conditions.

77.—See Journal, September 2, p. 621.

78.—Ibid.

79. **Typhoid Without Intestinal Lesions.**—The case here reported adds one more to the list of those in which the bacillus of typhoid has been demonstrated without finding lesions of the intestines. The case was demonstrated positively by the Widal test. The author gives a brief review of the 20 cases previously reported.

80.—See Journal, September 2, p. 622.

81.—See Journal, ¶ 33, p. 969.

85. **Neuroses from Oophorectomy.**—Davis' article discusses simply the general subject of changes following the removal of the ovaries, and reviews the literature to some extent. He advocates conservatism in this operation, the preservation of at least a part of the organ, which has been his practice of late years.

86.—See Journal, April 15, p. 839.

90. **Fracture of the Ribs.**—Borck describes his methods of treating rib fracture as follows: "I put my patient on a stool or allow him to stand erect. I fasten into the ceiling or doorframe over his head a pulley from which is suspended an ordinary trapeze; let him grasp the bar with both hands, and have him slowly elevate and extend his arms above his head, assisting him with the pulley in one hand, and directing him to breathe easily and slowly. If necessary, I help with my other hand in bringing the fragments into apposition; if the angle is outward, a slight pressure on it with the flat hand will answer; if inward the pressure must be applied to the extremities near the sternum and vertebræ. As soon as the fragments are in proper position the pain will cease, when the rope is tied somewhere and the patient kept quiet until the dressing is put on, which consists—according to circumstances—of a soft pad of absorbent cotton, between the ribs, i. e., on the intercostal space, and never on the ribs. I have my plaster-of-Paris bandages ready—these are the only fractures for which I employ this material; some other kind may do as well—the patient is again directed to take slow and deep inspiration and expiration and at the close of each expiration I make a quick turn with the bandage around the chest, beginning over the lowest fractured rib and continuing until I have finished a light Sayre's jacket. After the dressing is dry the patient is released. He may then go to bed, or rest in a chair, and in a short time thereafter can walk about with comfort." He never keeps a patient in bed with a broken rib. The treatment above set forth proved all that was necessary in uncomplicated cases.

95. **Iodoform.**—Thompson discusses the question given in the title of his paper, and answers it in the negative, believing that we have a better substitute in europhen, which he commends from his experience.

98. **Limitations of Digestive Practice.**—After general remarks on the limitations of specialties, Benedict states that the digestive specialist must be a physiologic chemist and a diagnostician in every regard. Many cases stand in the doubtful ground between gastric, nervous, and other disorders. This is especially the case with dyspepsia in its various forms. Eye strain is a subject on which much has been written, and some false notions have arisen in regard to it. Undoubtedly, reflex nausea and vomiting have been relieved by glasses, but just as truly have refractive errors complained of, been done away with by attention to other organs than the eye, or even by improving the general health, but it would be absurd to assert that real refractive errors can be relieved by stomach treatment or real digestive troubles can be cured by attention to the eye respectively. He alludes also to the lesions of the thyroid and their symptoms, and believes that they may be claimed by the gastric specialist as belonging in his territory. Other disorders which fall more or less into the hands of the gastric specialist are lithemia, diabetes mellitus, certain forms of neurasthenia, etc., but they can not trespass from these grounds over into the region of rheumatism, arthritis, or all the diseases diagnosed by urine examination. These cases are mentioned to illustrate that specialists, like others, must include some disorders and cases when it would be manifestly unfair to allow analogy to its limit. Considering that the gastric specialists deal with viscera rather than with accessory organs, the number of these doubtful cases is small.

102. **Teschner Method in Scoliosis.**—The method originated by Dr. Teschner of New York, of using exercises to correct spinal curvature by toning up the muscles, is described at length in Dr. Teschner's words in Erich's paper. It consists especially in the use of dumb-bells and bars, employed in swinging or raising in such a way as to strengthen the muscles antagonizing the deformity. The exercises are described at length. The patients are exercised to their full endurance at each séance, and the amount of work performed at any time depends upon the previous record. In Dr. Teschner's cases improvement was very rapid and noticeable within the first two or three weeks, and was attended also by improvement in general health and increase of weight and marked increase of lung capacity, and a beneficial effect on the heart's action.

shown by the diminished frequency of the pulse and the increase of pulse-pressure after each treatment. The effect on the nervous system by the cultivation of muscular precision and endurance is marked, and the improvement generally continues long after active treatment has ceased. Dr. Erich's method was a modification of this to the extent that the exercises were never carried to fatigue or discomfort and the weights used were not so large as those employed by Teschner. Improvement was, therefore, slower, six weeks being required generally to perceive its beginnings, but she feels justified in this change, as she considers it safer and more comfortable, and the risk of overdoing the patient's heart is eliminated. Five cases are reported which were under treatment for several months each. In one case there were perfectly flat feet which were never free from pain, and she attributes the cure of these also to the exercises employed by the Teschner method.

103. **Tonsillar Suppuration.**—After recalling a former communication, Goodale states that the purpose of the present article is to review the eight cases that have thus far come to hand with the hope that their study may throw some light on the following subjects: 1. The etiological relationship of these intrafollicular abscesses to special micro-organisms. 2. Their relationship to peritonsillar inflammation. 3. Their prognostic significance and the possibility of recognizing their presence from clinical appearances. In each case notes were made with regard to the following points: 1. The clinical history. 2. The macroscopic appearance of the tonsils. 3. The micro-organisms cultivated from the surface of the tonsil previous to excision. 4. The histologic phenomena, with special reference to: *a*, the intensity of the proliferative phenomena; *b*, the number and size of the suppurative foci; *c*, the amount of fibrinous exudate in the crypts, and finally, *d*, the number and character of the leucocytes in the interfollicular lymph-channels and connective-tissue spaces near the base of the organ. He describes his technic and reports the eight cases in detail.

104. **Tonsillar and Circumtonsillar Abscesses.**—Leland first recalls a case reported by him in 1893 in which he introduced his finger into an abscess cavity and tore out the opening, thus thoroughly evacuating its contents, with surprisingly good results. Since that time he has been led to use the sterilized index finger in other cases of tonsillar and subtonsillar suppuration as an exploratory and operative instrument. By the use of the finger tip, after the tonsil has been split with a sickle knife, the large and distended crypts can be frequently made out and the sinus followed upward and outward through the tonsil into the circumtonsillar cavity. He has frequently been able to determine the exact size of the abscess in this way and in large ones to put the finger down and tear the tonsil outward, thus giving an exit for the pus at its lowest level. He has tried a stiff-pointed probe for this purpose, but has not found it so satisfactory. This operation may sometimes leave an objectionable scar, but it does not leave any question as to the condition of affairs or as to the complete granulation of the cavity from the bottom. In the cases operated on which he has been able to follow up there has been no recurrence. Another advantage is the quick recovery, and he reports several cases illustrating this. Sometimes, he says, the finger brings up against a tensely filled cavity which it is impossible to enter. This, however, may frequently be opened the next day by this method or by the blunt point of a knife passed through by pressing it upward and outward. This starts the pus, which makes subsequent procedure easy. He reports here, however, one fatal case where this condition existed, but the patient was removed out of his reach before the abscess was opened, and he is confident that it could have been opened had he been able to thus operate on it the following day. He does not publish this method as new, for he has heard from an older surgeon that fifty years ago it was customary to open circumtonsillar abscesses with the finger, but he holds that it is a thorough method that can be made painless under slight general anesthesia, that the opening is made through diseased tissue, that the pus tracts and cavity can be found earlier than with ordinary methods and that much time and suffering are saved.

105. **Ameba Ciliata in Disease.**—In a lengthy paper under this title running through two numbers of the *New York Medical Journal* (September 30 and October 7), Dr. H. G. Graham calls attention to the pathogenic importance of ameba ciliata as a carrier of microbes in the system. He thinks that the organism ordinarily has probably little or no pathologic significance in itself, but the protection it affords to germs from various destructive agents and its power to penetrate tissues render it highly important. When there is an invasion of a vital organ resulting in interference with its normal function, the disease becomes complicated and aggravated. Some of the white corpuscles in the blood and some of the pus corpuscles in the urine in various infectious diseases and in some subacute diseases are, he holds, nothing more nor less than the ovules of this same ameba, and he suggests that a probable function of the spleen is the arrest and destruction of embryonic forms of this and other minute fresh-water organisms. (See also editorial on this paper.)

107. **Primary Lesions of Tuberculosis.**—The theory of the primary infection of tuberculosis by inhalation is questioned by Weaver, who thinks that it is more generally by way of the intestinal tract. The fact shown by Birch-Hirschfeld, that the area of lung tissue in the apex of the lungs in which respiration is least active and the air most stagnant is the usual location of the primary tubercular lesions, is held by him to support his view. He can not see how dust infection could be so general in these dead air-spaces. This region, however, is in close anatomical relation with the thoracic duct, carrying the bacilli-containing chyle from the digestive tract. His conclusions are that: "1. The infection comes through food or moist germs inhaled and swallowed, and possibly through infection of tonsillar tissue. 2. In the great majority of cases the infection occurs in the posterior portion of the lung apex, that being the most vulnerable point, as a direct result of the discharge of infected chyle into the vena cava. 3. Should that portion of the lung apex be healthy, and not a suitable nidus for the germs, they may pass on with the current of blood to find lodgment in some other area, unless the blood has exerted its bactericidal power over them, when they may be removed by the action of the phagocytes (Klebs). The theory of Cornet has not produced the results expected in the prophylaxis of tuberculosis. Then why consider such a rare possibility, when we know that there is a stream of bacilli constantly flowing into the blood-current through the lacteals, capable of producing the infection in the lungs?"

108. **Congenital Dislocation of Hip.**—The etiology of congenital dislocation of hip is somewhat conjectural, though the most reasonable theory is that of intrauterine pressure on the flexed thigh. At birth it is practically a subluxation, and it may be assumed that with its immediate replacement, development might proceed normally. When the diagnosis is usually made, however, at the time the child begins to walk, the changes have taken place and these increase with each successive year, producing a deformity and disability that is hardly appreciated by most of those who have discussed the subject. The operative methods are the functional weighting method of Lorenz, and the open operation of Hoffa, as modified by Lorenz. The disadvantages of the former, the possibility of mistaken diagnosis of replacement, etc., are mentioned by Whitman, and he regards it as a preliminary and tentative procedure that must in most cases be supplemented by the open operation. It is readily consented to, causes but little inconvenience, and may in itself produce marked improvement in certain cases. He reports his own experience with twenty-one patients, a total of thirty-two operations with three complete cures, following the operation of Lorenz except in the use of manual traction in place of instrumental. He considers the method, however, quite inadequate in final operations. The chances of success are excellent in very young subjects, but diminish rapidly with the age. His patients being hospital patients, in the nineteen operations he has performed by the open method, only seven were preceded by simple replacement. He gives the details of the method used as modified from that of Lorenz, as follows: The joint is opened by a lateral incision just below and one inch to the outer side of the anterior superior spine. This exposes the fascia, through which the line of junction between the tensor vagina femoris and the gluteus medius muscles may be seen. When these are separated from one another the capsule of the joint is at once exposed, often covered in part by the fibers of the iliopsoas muscle. The capsule is opened by an incision in the line of the neck of the femur and through

this the head of the bone may be exposed after the division of the ligamentum teres, if it be present. The finger may then be passed through the opening downward and forward to the acetabulum and by its side a strong cervix dilator is inserted with which the capsule is thoroughly stretched, especially the anterior layer which covers the acetabulum. The acetabulum is excavated to the extent that seems desirable by means of a sharp spoon, the bayonet-shaped instrument being the most convenient, after which the head of the bone is replaced. The wound is closed, except for a small gauze drain inclosed in rubber tissue, and a plaster-of-Paris spica bandage including the foot is applied with the leg in an attitude of moderate abduction, complete extension, and slight inward rotation. There is, as a rule, little difficulty in the reposition when the primary operation of forcible correction has been performed or when the accommodative contractions have been thoroughly overcome by preliminary or immediate traction, but in older patients a more extensive division of the capsule may be required. Ordinarily the operation may be performed in less than half an hour, there is little shock, and the subsequent discomfort is slight. As a rule, the patients remain in bed but a week, and are often about in a chair in a few days. The after-treatment of the open method is important and, in two cases, finding the acetabulum of full size, he simply cut and dilated the capsule and replaced the femur without excavating the acetabulum, but the success of these was not satisfactory. In his nineteen open operations, fifteen were performed within the last year, so the time is too short to report results. In the total of his cases treated by both operations, the result in four is practically a perfect cure. In two cases the result is extremely good and in two it may be called good. The object of his paper is to establish the proposition that congenital dislocation of the hip is a deformity for which positive treatment is indicated at the earliest possible time.

109. **Sanitaria for Tuberculosis.**—This article, read before the Ontario Medical Association by Bowditch, gives the history of the sanatoria treatment in Massachusetts, especially the Rutland and Sharon institutions. He especially advocates the founding of sanatoria in the vicinity of large cities and towns in properly selected sites for the benefit of those who can not for any reason go far away.

110. **Vaginal Celiotomy.**—Goffe reports the results of his experience in vaginal methods of operation for pelvic diseases. The anterior operation is the one which he prefers, and it consists in making a transverse incision through the anterior vaginal fornix corresponding to the incision employed in the complete vaginal hysterectomy. In addition to this a longitudinal incision is made at right angles to it, through the entire length of the anterior vaginal wall. The bladder is then dissected from the uterus and also from the vaginal wall, to the extent of an inch or an inch and a half from on each side of the longitudinal incision. Through this opening ample space is afforded for any work on the uterus and its appendages. When he first began with this method he feared more or less severe bladder symptoms, but has not met with the first instance of this as yet. He has treated, in this way, almost every condition to be met with in the female pelvis, from simple retroversion with adhesions, to prolapsed and cystic ovaries, unilateral and bilateral salpingitis, ectopic gestation, fibroid tumors of the uterus, and dermoid cysts. The patient is not conscious of having had any incision made, and the operation leaves no scars. He gives, more or less fully, the accounts of certain special cases in which this operation was performed to advantage. (See also p. 933.)

FOREIGN.

British Medical Journal, September 23.

A Discussion on the Pathologic Significance of Sympathetic Irritation, and Its Connection, if Any, with Sympathetic Ophthalmitis. F. Richardson Cross and others. Cross reviews the subject of sympathetic irritation and its connection with sympathetic ophthalmia, discussing the symptoms, causes, pathology, prognosis and complications advising as good practice, the removal of the eyeball, thus doing away with any possible source of mischief. As regards the pathology, he holds that neither the reflex neurosis nor the microbic theory were ever definitely proven. There is a possibility that, with future and more perfect research, various kinds of microbes will be found, implicating, if not actually causing, sympathetic complications. He thinks we should work carefully in the direction, by seeing whether any general infection of the system was coincident with septic uveitis.

A Discussion on the Visual Tests. H. Caley, E. Landolt and others.—Landolt criticizes Snellen's test types now commonly used for testing vision, especially on account of the unequal difficulty of distinguishing certain of them. He proposes in place of them a black circle on a white surface, presenting in some direction a gap, which, for the unit of acuteness of vision corresponds to an angle of 1 minute. He has given this circle the same thickness as the corresponding letters in Snellen's types and has chosen the dimensions in such a manner that, placed at a distance of 5 meters, they correspond to the following 15 degrees of visual acuity: 0.1, 0.15, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.25, 1.50, 1.75 and 2. The patient can indicate by a motion of his hand the direction of the gap, and they have the advantage of being suitable for showing in a mirror without requiring to be printed inversely, and the greatest advantage of all is that they are a simple test for acuteness of vision, excluding as much as possible intellectual functions, and they are the same for illiterate as for the educated.

Color Blindness and Defective Sight in the Mercantile Marine. T. H. Briscoe.—The author discusses the figures of examination of sailors in the Board of Trade reports, showing the proportion that have failed in the color test, and criticizes the inaction of the Board of Trade in regard to this important matter. He gives as ground for his criticism a formidable list of disasters which he thinks are possibly or probably due to this defect.

The Asphyxial Problem in Convulsive Seizures. J. F Briscoe.—The pathology of convulsions includes the possible arrest of the pulmonary circulation and death by suffocation Briscoe calls attention to this fact, noticing the facts of the physiology of asphyxia, and, as a practical deduction, shows the value of blood-letting in this condition, illustrating it by a case which he reports.

On "Double Consciousness." Theo. B. Hyslop.—The subject of double consciousness or double personality is discussed by Hyslop, who classifies the cases under the following seven types: 1. Those occurring in early life, and in which the abnormal state is preceded by night terrors, somnambulism, or both. 2. Types in which the abnormal state is preceded by profound sleep, and in which the normal state is only again reached by sleep. 3. Types due to temporary or periodic amnesia acquired as the result of accident, injury or disease. 4 Epileptiform types. 5. Insane types. 6. Hysterical anesthetic types. 7. Types in which during the abnormal state, the subject assumes the possession of a mediumship. He illustrates several of them with cases. As regards the first of these he thinks that there is something to be said in favor of the hypothesis that double consciousness is only complete somnambulism. The successive awakening to the senses constitutes a gradation from ordinary sleep to complete somnambulism, giving the subject studied the appearance of leading a dual life The second type is illustrated by Weir Mitchell's case of amnesia following protracted sleep and remaining thus unti after a second similar attack. The third type is one that is not unknown in asylums, and he reports a case. The epileptiform the fourth type, is also a familiar one, and, as an example of the fifth, he refers to the Azam case. The paper is not easy to abstract, dealing, as it does, with complex problems, but i well worth reading.

Lancet, September 23.

On the Regeneration of Nerves. Robert Kennedy.—This paper gives accounts of four cases of secondary suture of nerves with deductions from the results of operations and microscopic findings. Kennedy concludes that the early return of sensation must be regarded as indicating a restored conductivity of the divided nerve. His deductions from the microscopic examination are as follows: 1. Degeneration—*a*. That there was no evidence of ascending degeneration of the kind described by Krause after interruption of a nerve. *b*. That the old axis cylinder and myeline sheath were destroyed in the periphera segment and in the ultimate portion of the central segment 2. Regeneration—*a*. That young nerve-fibers were developed i the peripheral segment as well as in the end of the central segment. and that, even while there was no connection between the two ends. *b*. That these young nerve-fibers originated within the old sheath of Schwann from the protoplasm and nucleus of the interannular segment. The spindle-cells formed from the protoplasm and nuclei of interannular segments elongated and united to form protoplasmic threads, with the elongated nuclei attached to their sides. The central portion of the protoplasmic thread developed into the axis-cylinder, while myeline was deposited in drops in the protoplasm surrounding the newly formed axis-cylinder. The protoplasm in which the myeline was deposited remained with the nucleus as the neuroblast of he new interannular segment. *c*. That so long as conductivity of the nerve was not re-established the development of the ibers proceeded only to a certain stage, and as the new fibers, hree months and eighteen months subsequently to division, presented identical characters, this stage might be regarded as a resting-stage depending for its further development on re-establishment of function. *d*. That cicatricial intercalary egments reuniting the ends of a divided nerve might be permeated by young fibers from end to end without re-establishment of function, if the amount of cicatricial connective tissue present in the mass was sufficient by its pressure to prevent the passage of impulses.

The Prevention of Sickness After Anesthetics. J. BLUMFELD.—According to Blumfeld, the after-sickness following operation when anesthetics are used depends largely on the diosyncrasy of the patient, the secretion of mucus and the ength of operation. He says: "In conclusion it may be said hat some of the chief points to be attended to in the avoidance f after-sickness are: 1. Use as little of the anesthetic as possible consistent with perfect anesthesia. 2. Wash out the tomach at the close of operation when much mucus has been wallowed. 3. In long operations substitute chloroform for ther after three-quarters of an hour. 4. Move the patient bout as little as possible during and after operation. 5. Place him on his right side in bed with head only slightly aised. 6. Give nothing but hot thin liquids in small quantity for at least eight hours after. 7. Do not alter the temperature f the room for some hours. With proper attention to these oints one-third of the patients operated on will be free from fter-sickness, and for short operations the proportion will be much higher still. In fact, after all administrations up to wenty minutes, or not much longer, sickness will be found to e the exception."

Medical Press and Circular, September 20.

The "De Novo" Origin of Syphilis. JOHN A. SHAW-MACKENZIE.—This paper argues for the *de novo* origin of yphilis from promiscuous intercourse. He says we can not resume that all contagious or morbid poisons must have had n existence from the beginning, and that it is perfectly natural o assume that certain causes that gave rise to infection at first may still be in action.

Indications for Cesarean Section As Compared with Those for Symphysiotomy, Craniotomy and Premature nduction of Labor. PROFESSOR LEOPOLD.—According to Professor Leopold, the indications for Cesarean section as compared with those for symphysiotomy, craniotomy and premature induction of labor are: 1. Before term—when there has een one or more difficult labors caused by pelvic deformity, remature induction of labor is indicated when the pelvis is ot too much contracted (conjugata vera more than 7 centimeters in flattened pelvis, more than 7.5 centimeters in the usto minor pelvis). The best moment for intervention is the hirty-fifth week of pregnancy. Good results are not to be expected unless the membranes remain intact and there is a ead-presentation. 2. At term—craniotomy is indicated: *a*. When the child is dead, and labor does not advance, even when he pelvis is only slightly contracted. *b*. When the child is in anger, the contracted pelvis being an obstacle for spontaneous irth, forceps and version being too dangerous or impossible. This rule is equally valuable only for hospital and home ractice. The danger for the mother is too great to risk the Cesarean section or symphysiotomy when it is not quite sure hat a living child will be born. *c*. When the child is in perfect ondition, craniotomy will be performed only as an exception n hospital practice. But in private practice it is indicated when spontaneous birth, forceps and version are excluded and the termination of labor is necessary, the obstetrician, all circumstances duly considered, regarding Cesarean section or symphysiotomy too dangerous the conjugata vera must be more than 6 centimeters. In exceptional cases, when for private reasons it is important that the child is born living, should it be only for some minutes, the advice of a colleague is to be asked and the family of the woman to be acquainted with all the dangers accompanying the operation by which the child can be saved. The Cesarean section has absolute or relative indications. In pelves with a conjugata vera of 7.5 to 6 centimeters the indication is an absolute one. Cesarean section on relative indications requires the fulfilment of the following conditions: a spontaneous birth being impossible, forceps and version inadmissible, the child in perfect condition, and the woman either in a hospital or in circumstances quite as favorable as to the operation itself and as to subsequent nursing. When the circumstances are not favorable enough, craniotomy of the living child is to be preferred. Symphysiotomy is only indicated in pelves with a conjugata vera of 7.5 to 6.5 centimeters; the indications are therefore much more limited than those of Cesarean section and do not all regard the pelves of the second class. With this restriction symphysiotomy may compete with Cesarean section on relative indication, and require the same conditions. When these conditions are not fulfilled craniotomy must be performed. The choice between symphysiotomy and Cesarean section as relative indication depends on the experience of the operator. The results of both operations performed under the same conditions are almost equal for the mothewr as well as for the child.

Deutsche Medicinische Wochenschrift (Berlin), September 14.

Report of the Official Malaria Expedition. R. KOCH.—As mentioned last week in the JOURNAL, p. 929, Koch has become convinced that malaria can be exterminated in time by destroying all the parasites in subjects infected with malaria during the summer, before the arrival of the next summer. This can be accomplished with quinin, but not in the half-hearted manner in which it is usually administered. In his experience with 408 cases of bacteriologically confirmed malaria, he found that two doses of one gram each, given during the intermissions, were sufficient in most cases to break up the attack. The dose was doubled in the estivo-autumnal variety —which was usually very severe—and the appearance of the large ring-shaped parasites in the blood was the signal for it. To prevent relapses afterward one gram is administered every tenth day. Gosio is continuing the tests at Grosseto to determine whether this prophylactic dose is sufficient. The research confirmed in every respect what has already been established. The most careful search failed to reveal the parasite in any other living beings than man, the *Anopheles maculipennis* and the *Culex pipiens*. The latter must be included among the harmful mosquitoes. The sickle-shaped parasites were found in them, and Ross' brown bodies were noted on the surface of the stomach of two of the anopheles. Koch concludes that the principles of our present sanitary measures for the prevention and eradication of cholera, etc., must be extended to malarial infection, only with the advantage of a specific remedy, quinin, already in our hands.

Importance of Salt Water Bacteriologic Investigations. B. FISCHER.—The study of ocean bacteriology is a promising, hitherto neglected field and will add much to our knowledge of the conditions of life and vital manifestations of bacteria. It is not only important for hygiene, but general biology will also profit by it. We can already assume that the ocean bacteria are important factors in salt-water metabolism. The number of varieties of bacteria seems to be rather limited, and the shapes are different from those observed on land, resembling more the comma bacillus. Unicellular fungi abound. The number of bacteria increases with the distance from the surface to a certain depth, further evidence of the bactericidal power of sunlight. The German Deep Sea Expedition has now a practical bacteriologist attached, Dr. Bachmann, from Flügge's Institute, and important results are anticipated from his research, but Fischer urges all who have the opportunity to make a study of ocean bacteriology. Nansen asserts: "life is everywhere, even to the very poles." He found that the temperature of the water rose with the depth.

Total Excision of the Stomach Combined With Resection of the Intestines. T. Kocher.—A special danger is signalled in this communication, based on an observation described in detail, but pulling on the stomach or intestine is liable to disturb the circulation in the arteria mesaraica and lead to extensive anemic necrosis of the intestinal mucosa in the tributary region, with a fibrinous deposit on the outside of the intestine, and fatal peritonitis from perforation. In two other cases of partial excision there was for quite a while a rebellious diarrhea, with a circumscribed sensitive region, probably due to the same cause, as also the hemorrhages sometimes noted after such operations. Kocher, therefore, advises in difficult and complicated cases extending the incision to obtain ample room. Also to watch that the compresses walling off the abdominal cavity do not exert undue pressure, and in detaching the posterior surface of the stomach, see that there is no pulling in the region of the root of the mesentery and of the vessels leading to the intestines. He observes that the union of the duodenum with the esophagus presents no difficulties, and adds that he has partially resected the stomach in ten cases during the last five months. Two have since died; one from pneumonia, the other from pre-existing cachexia.

Zeitschrift f. Geburtschilfe u. Gynakologie (Stuttgart), xli, 2.

Purpura in Puerperio. J. C. Diehl.—The autopsy of a VI-para succumbing after an abortion at four months disclosed internal hemorrhages, capillaries much dilated, but no microorganisms, in both mother and fetus, evidently a case of idiopathic purpura. He concludes after much study of the subject that almost all cases of purpura are secondary, and that idiopathic purpura cases are only those in which no existing affection explains the eruption, which may be due to an organic or functional affection of the sympathetic. Pregnancy favors the evolution of morbus maculosus, and renders the prognosis serious. The interruption of the pregnancy is almost invariably the result of the disease, which may involve also the fetus, although this rarely occurs.

Beitrage zur Klinische Chirurgie (Tubingen), xxiv, 2.

Operative Treatment of Aneurysms. H. Hoffmann.—In two of the seven observations related, Mikulicz first ligated the afferent artery and when this wound had healed, removed the clot through an incision, sutured the wound at once and applied a compressing bandage. Although this method takes a longer time for the healing than extirpation, it is harmless and is indicated in cases in which extirpation is counterindicated. No narcosis is required, as Schleich anesthesia is sufficient.

Disinfection of Infected Wounds. C. v. Eicken.—Research in this line is described which demonstrated that the main point in treating infected wounds is good absorbing bandages and changing them frequently. Three per cent. solution of carbolic acid produced the most extensive changes in the tissues of all the disinfecting substances applied, whether under a drying or impermeable covering.

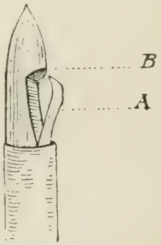
Experiences With Surgery of the Pleura and Lungs. H. Gross.—Four cases of echinococcus of the lungs all recovered after removal of the cyst, surpassing even Tuffier's percentage—90.1 per cent., that is, 55 recoveries in 61 operations. Gross recommends drawing the lung forward and suturing it in case of pneumothorax, tamponing the thoracic cavity to keep the air out. He prefers the scissors to enter the lung and rejects the thermocautery, as it chars and makes the lung tissue unrecognizable. He applies compression to arrest hemorrhage, and seizes the lung before cutting into it, to prevent retraction. He removes the entire covering in peripheral abscesses and leaves a passage two to three fingers wide with a central focus. In one case of multiple suppuration of the lung he found Delorme's method of decortication, that is, shelling the lung out of the pleural envelopes, very useful in the expansion of the lung.

Tardy Suppuration After Shot-Wounds. H. Graetzer.—Suppuration has been known to occur as late as fifty-nine years after the wound, in an experience of three personal and fifty-two collected cases. Shot-wounds can not be considered sterile, as the ball usually carries fragments of the uniform in with it, and latency of the germs explains the late suppurations. No one with a bullet inside him can be sure that disturbances and accidents may not result from it any day.

Centralblatt f. Chirurgie (Leipsic), September 24.

Operative Treatment of Hypospadia in Glans Penis. Watten.—Beck's operation for hypospadia is hailed by the writer as a great progress, but unfortunately it can not be applied to all cases (See Journal, xxxii, 1, p. 31 and 5, p. 256), especially when it is impossible to mobilize the urethra sufficiently to draw it out to the tip of the gland. In such a case Watten cuts a flap of mucous membrane out of the lower part of the gland substance, like an oval lozenge, as wide as possible and 1 to 2 mm. thick. The gland is then slit to the middle lengthwise and opened and the flap inserted to make a new supplementary portion for the urethra. A fine catheter is then introduced in the urethra and the flap and glans brought together over it and sutured. No stitches are necessary in the flap itself, except at the tip.

New Trocar for Exploration of Pathologic Tissue. O. Sgambati.—As it is becoming more and more necessary to submit a fragment of pathologic tissue to microscopic examination to complete the diagnosis, improved methods of exploration have to be devised, and the little trocar, the tip of which is shown magnified in the cut, seems to be a distinct advance in this line. It is inserted with only the point projecting beyond the canula. The latter is then drawn back, which releases the knife-blade, and a quick rotation of the trocar to the right cuts out a tiny cylinder of the tissue to be examined. It drops into the notch, where it is held by the knife until withdrawn from the canula. Fragments 2 to 3 mm. in diameter can thus be obtained, the subject scarcely feeling the prick. A spoon can be substituted for the knife in cheesy substances.



Muenchener Medicinische Wochenschrift, September 19.

Tuberculosis and Defects in Development. A. Hegar.—The influence of tuberculous infection on the sexual apparatus is evident in the amenorrhea of adult women, which is frequently the first indication of latent tuberculosis; the infantile uterus, etc., when infection occurs near puberty or during childhood, but still more striking are the defects in the development of the fetus. Hegar recently observed a bow-shaped rudimentary uterus with tuberculous degenerated tubes, rudimentary cornua and no vagina, in a young woman born of a phthisic mother. The defective development dated from the end of the second month of pregnancy. The connection between the tuberculous influence of the mother and the defects in development is sustained by numbers of other cases cited, in which sexual abnormalities, hermaphrodism, breasts developed in men, beard and penis-like clitoris in women, can be ascribed with great probability to the tuberculous influence of one or both of the progenitors. As these phenomena are also observed when no bacilli nor specific tuberculous alterations can be discovered, it is evident that the toxins are responsible for them. Heredotuberculosis and heredosyphilis can therefore be paralleled in respect to their influence on the offspring, and Hegar is also inclined to rank alcohol and metal-salts intoxication with them in regard to the dystrophic alterations produced. It seems probable that all these toxins and poisons injure the germ plasma and the embryo in the same way, but possibly later research may establish differences in their action. He is convinced that this theory is fundamentally correct and of the greatest scientific and practical interest and that it points out the road for further important results.

Specific Immunizing Serum Against Epithelium. von Dungern.—The writer established recently that foreign red corpuscles introduced into an animal organism are destroyed by an anti-body which forms and has a special affinity for the "immunization-bodies" of the erythrocytes used, but has no affinity for the red corpuscles of the animal producing it. (See JOURNAL, xxxii, p. 935.) He now announces that similar research with epithelium scraped from the trachea of cattle the moment they are slaughtered, suspended in salt solution and injected into the abdominal cavity of guinea-pigs, resulted in the survival of the injected epithelium elements for several—in some cases as long as ten—days, evidenced by the ciliary movements, vacuolization, etc. But if the same process is repeated ten days later, the injected epithelium elements rapidly die, evidently destroyed by an anti-body that has formed in the meanwhile, the same as the red corpuscles are destroyed by the anti-body first mentioned. The anti-body that attacks the epithelial cells can in fact be isolated from the serum, although its action *in vitro* is much less pronounced than *in vivo*, resembling cholera immune-serum in this respect. The red-corpuscle immune-serum does not attack the epithelial cells, but the epithelial immune-serum, besides its specific action on the epithelium, has also a non-specific action on the red corpuscles. This non-specific action, however, does not occur when epithelial cells are combined with the red corpuscles, and the fact that this non-specific action of an immune-body on red corpuscles is arrested by combining with the latter the appropriate "immunization-body," can be utilized as a test, and enables us to determine in the simplest way other specific anti-bodies which are present in the blood-serum of the animals in question after preliminary treatment with various tissue elements, whenever direct demonstration by the effect of the serum on the cells is lacking. By combining non-specific tissue with the blood added to the immune-serum, we can compare the chemical affinity of the various tissue elements with the affinity of the red corpuscles to the anti-body in question, and thus establish the relations between the separate tissues in respect to their immunizing bodies. The practical results of this research are the suggestion of applying this epithelium immune-serum to the treatment of carcinoma, especially for local treatment after removal of all naked-eye cancerous tissue. The anti-body produced for this purpose must be derived from human epithelium, and the writer has already commenced immunizing animals with milk which also contains the "immunizing-body" of the epithelium.

Nordiskt Mediciniskt Arkiv (Stockholm), August 31.

Pathologic Modifications of the Alimentary Canal in Pernicious Anemia and Atrophy of the Intestines. K. FABER AND C. E. BLOCH.—The Germans have of late described peculiar modifications in the intestines in pernicious anemia, which they assume to be atrophied patches and possibly a factor in the production of the anemia. The research reported in this communication has confirmed the existence of the modification exactly as described by the Germans, but the writer's interpret them quite differently, considering that they are partly cadaveric processes and partly merely the result of distension. In two cases of pernicious anemia the peritoneal cavity was injected with a solution of formol immediately after death, which fixed the intestines as in life, and examination with the microscope showed that every one of the coats of the intestine was normal and well preserved, but that there were portions in which the wall was thinner, smooth and without folds, with the follicles far apart. Experiments on animals effectively demonstrated that this appearance of these portions was the effect of distension. There was no evidence to prove any atrophy of the intestines in these two and other cases examined, but the evidence conclusively established that distension and putrefaction acting in concert, were able to produce the condition described as patches of atrophy of the intestines by others.

Presse Medicale (Paris), September 20.

Treatment of Varicocele. T. TUFFIER.—In this communication Tuffier warns against operating in certain cases of varicocele in neurasthenics, hysterics, epileptics, etc., as although no more dangerous for the patient the operation is dangerous for the surgeon. Cases have been known in which the lost genital functions were restored after an operation, but the reverse has also been known to occur, and these subjects are extremely liable to ascribe to the surgeon what is in reality due to their affection. The three varieties of varicocele: venous ectasia with normal coverings; parietal insufficiency or orchidoptosis, with normal veins, and the mixed form, all require different treatment. The cause should invariably be sought elsewhere, as the varicocele is frequently merely one manifestation of a general affection characterized by a physiologic insufficiency of the tissues. It may possibly be due to compression from a truss, to a hernia compressing the cord, to an iliac, abdominal or renal tumor, constipation, etc. In the first variety, after removing the cause, the enlarged veins are resected and patients cured in a few days, with no suspensory required. In the second form, if suspension and cold ablutions fail, the stretched walls of the scrotum must be resected and a new firm scrotum made out of what is left. The mixed form requires mixed treatment.

Thrombophlebitis of the Cord Treated by Phlebectomy. L. LONGUET.—Another observation is added to the five in literature. The circumscribed thrombophlebitis was twenty centimeters in length unstraightened; patient dismissed cured in ten days.

Pathologic Acetonuria. G. MILAN.—The syndrome of acetonuria is comprised in the chloroformic odor of the breath and of the urine and the nervous symptoms. The dyspeptic form is usually febrile, with somnolency, depression and refusal to eat, or restlessness, excitability, slight delirium. Skin hot, pulse 120. Rectal temperature, 39 C. Tongue moist, yellowish in the center. Vomiting, tendency to constipation. When non-febrile, the symptoms simulate a typhoid fever. The diabetic form is manifested by imminent or declared coma. The treatment of these two chief forms of pathologic acetonuria is entirely different. Diabetic subjects should be supervised with extreme care, as even slight glycosuria is no guarantee against sudden severe accidents from acid intoxication. Lepine gives sixty to eighty grams a day of sodium bicarbonate in threatening acid intoxication, and in cases of coma, injects into the veins two liters of sterilized water containing seven grams of sodium chlorid and ten grams of sodium bicarbonate to the liter. Dyspeptic acetonuria, on the contrary, is threatened merely by removing the cause, the dyspeptic disturbances, refraining from milk, eggs, fish, meat, and taking a light carbohydrate diet. The albuminoids increase acetonuria and also fasting, on account of the autophagia induced. The only medication is purgative. Vergely recommends in addition, to prevent fermentations, a mixture of sodium hyposulphite, 20 to 40 centigrams; syrup of orange flowers, 10 grams, and glycerinated water, 10 grams. Recurrences are frequent and must be prevented by exercise, dieting and frequent evacuations of the intestines.

Gazzetta degli Ospedale (Milan), September 10 and 17.

Sympathectomy of the Utero-Ovarian Plexus. G. CAVAZZANI.—Last spring Ruggi recommended resection of the plexus spermaticus or utero-ovarialis to relieve pain or as a supplementary measure in laparotomies, even claiming, as mentioned in the JOURNAL of August 19, p. 478, that in many cases of hyperesthesia and erethism this intervention might alone answer the entire purpose. Cavazzani now reports two cases thus treated: one had had one ovary removed and later a hystero-salpingo-oöphorectomy on the other side had been done, but intense pains still persisted in the right iliac fossa, radiating to the foot on that side and to the thorax and shoulder on the other. The tube was found degenerated and there was a serofibrinous exudate in the small pelvis. The ovarian plexus was resected and all pains disappeared as if by magic—not a twinge since the very evening of the operation. The effect of suggestion was excluded, as the patient had not been informed that any unusual operation was to be performed, and was very deaf. In the other case the pains persisted after vaginal hysterectomy, radiating from the iliac fossa to the hip and thorax, and preventing all work. An atrophied tube and ovary on the opposite side were removed and the ovarian plexus resected. The pains disappeared completely. Both patients were operated on in June.

Experimental Research to Determine the Presence of the Diphtheria Bacillus in the Blood. C. CAFIERO.—Rabbits and guinea pigs were inoculated subcutaneously with the bacillus or with the diphtheria bacillus and streptococcus combined, under the most varied conditions and examined immediately after death, but the diphtheria bacillus could never be detected in the blood, even when derived directly from the heart.

Cystic Biliary Colic. De Renzi.—When the colic is due to the arrest of the calculus in the cystic duct, the pain is located toward the umbilicus, but when caused by the obstacles encountered by the calculus in its passage through the hepatic and common bile-duct, the pain usually occurs in the right hypochondrium, and there are frequently nervous irradiations and complications—pain in the right shoulder, vomiting, etc.—symptoms never observed in cystic colic. Calculi are never found in the feces after cystic colic, as the calculus returns to the gall-bladder, while they are usually found when the calculus is derived from the hepatic and common bile-duct. This classification of colic into these two well-defined varieties, cystic and hepato-choledochal, is based on a careful study of symptoms and anatomic changes in the ducts.

Research in Respect to the Glycogenic Function of the Liver in Relation to the Oxygenation of the Blood. E. Leonardi.—Numerous series of experiments on frogs, removing one or both lungs or one at a time, and studying the effect on the glycogenic function, are described in this communication. The result was the same in each, that with the lungs removed not a trace of a glycogen could be discovered, proving the suspension of the function with the deprivation of oxygen. In one series of tests the frogs were placed in ice water, and the glycogenic function remained normal even in the animals without lungs, showing that with the diminished metabolism in the extremely cold water, the absorption of oxygen by the skin was sufficient to supply the diminished demand.

Specific Gravity of the Brain of the Insane. C. Agostini.—Study of numbers of autopsies and examination of animals sustain the hypothesis that the specific gravity of the brain and comparison of different portions of the brain in this respect, is an important criterion among others, for the determination of the degree of evolution of the brain, and of pathologic conditions, as evidenced by the greater or less difference between the specific gravity of the gray and white matter or between various portions of the cortex. There seems to be a tendency toward alteration of the normal proportions in this respect in the insane, with a special type for each form of insanity, which are described at length in the original article in *Riv. Sperim. di Freniatria*, xxv, 2.

Societies.

COMING MEETINGS.

Medical Association of Central New York, Syracuse, October 17.
Northwestern Medical Society and Fox River Valley Association, joint meeting, Oshkosh, Wis., October 17.
Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, October 24-26.
New York State Medical Association, New York City, October 24-26.
Medical Society of Virginia, Richmond, October 24-26.
American Public Health Association, Minneapolis, Minn., October 31.

Hartford County Medical Society.—This society will hold its semi-annual meeting in Hartford, Conn., October 18.

Detroit Medical and Library Association.—At its annual meeting, October 3, the Association elected the following officers: President, C. Bonning; vice-president, F. L. Newman; secretary, P. C. McEwen; treasurer, R. W. Gilman.

Northern Berkshire Medical Association.—The annual meeting of this Association was held in Adams, Mass., September 26. The following officers were elected for the ensuing year: President, J. H. A. Matte; vice-president, William Galvin; secretary and treasurer, E. E. Russell.

Wayne County Medical Society.—The annual meeting was held October 5, in Detroit. The retiring president, Dr. R. H. Honner, in his annual address, congratulated the organization on its record of the past year and its success in promoting medical legislation in the last legislature. Dr. Honner said the society is endeavoring to bring about either national legislation on certain medical matters, or a proper reciprocity among the states. The report of the secretary, Dr. W. J. Cree, showed the membership to be 249, of which 226 are active members. The election of officers resulted as follows: President, G. A. Kirker; vice-president, F. D. Summers; secretary, W. J. Cree; treasurer, C. H. Leonard. At the close of the executive meeting the members were given a banquet by the retiring president.

American Public Health Association.—The twenty-seventh annual meeting of this Association will be held at Minneapolis, Minn., October 31-November 3. The executive committee has selected the following topics for consideration, on which special committees have been appointed to report:

1. Pollution of Water Supplies.
2. Disposal of Garbage and Refuse.
3. Animal Diseases and Animal Food.
4. Car Sanitation.
5. Steamship and Steamboat Sanitation.
6. Etiology of Yellow Fever.
7. The Relation of Forestry to the Public Health.
8. Demography and Statistics in Their Sanitary Relations.
9. Cause and Prevention of Infectious Diseases.
10. Public Health Legislation.
11. Cause and Prevention of Infant Mortality.
12. Period During Which Each Contagious Disease is Transmissible and the Length of Time for Which Each Patient is Dangerous to the Community.
13. Sanitation, with Special Reference to Drainage, Plumbing and Ventilation of Public and Private Buildings.
14. Method of International Arrangement for Protection Against the Transmission of Infectious Diseases.
15. Disinfectants.
16. To Examine Into the Existing Sanitary Municipal Organizations of the Countries Belonging to the Association, with a View to Report Upon Those Most Successful in Practical Results.
17. Laboratories.
18. To Define What Constitutes an Epidemic.
19. National Leper Home.
20. Revision of Classification of Diseases.
21. Dangers to the Public Health from Illuminating Gas Leakage.

Papers will be received on other sanitary subjects. A daily program will be issued each morning, giving the titles of papers, reports, etc., that will be presented, with such other information as may be of interest in connection with the work of the day. The railroads have granted excursion rates on the certificate plan. The citizens and medical profession of Minneapolis have arranged many social features for the entertainment of the city's guests and an interesting meeting is expected. The following are the officers: President, Henry Mitchell, Asbury Park, N. J.; vice-president, Jésus E. Monjarás, San Luis Potosi, Mex.; secretary, C. O. Probst, Columbus, Ohio; treasurer, Henry D. Holton, Brattleboro, Vt.

Further information concerning local matters, if desired, may be obtained by addressing H. M. Bracken, honorary secretary, Minneapolis.

Mississippi Valley Medical Association.

Abstract of Proceedings of the Twenty-fifth Annual Meeting, Held at Chicago, Oct. 3-6, 1899.

SURGICAL SECTION.

VESICO-RECTAL ANASTOMOSIS.

Dr. Jacob Frank contributed a paper on this subject, which, by the addition of subsequent experiments, was an elaboration of a paper published in the Journal, July 15, 1899. As a result of those experiments—made on dogs—he arrives at the following deductions:

1. The recovery of the animal and the macroscopic appearance of the tissues do not necessarily signify absence of infection.

2. In the dogs killed thus far, the operation of vesico-rectal anastomosis can be performed without a resulting kidney infection.

Dr. H. O. Walker, Detroit, Mich., commended the paper for its originality. His experience with ureteral implantation has been limited, but having read the literature on the subject, he is impressed with the practicability of the operation described by the essayist, believing it will do away with implantation of the ureter into the rectum.

Dr. Thomas Charles Martin, Cleveland, Ohio, said the essayist is less enthusiastic than he is justified in being, for it seems to him that in a human subject who has exstrophy of the bladder this new operation could be performed without opening the peritoneal cavity.

HEMORRHOIDAL COMPLICATIONS.

Dr. John L. Jelks, Memphis, Tenn., read a paper in which he dealt with some complications met with before and after operations for hemorrhoids, their causes, prevention and treatment. He reported several instructive cases. He said a surgeon sometimes, in dealing with a simple rectal trouble, encounters serious disease of the uterus and its adnexæ. This is particularly true when the patient is hysterical. Without the entire relief of both or all conditions, the patient will probably feel that little benefit has been given her.

Syphilis and gonorrhea may be and often are causes of rectal troubles. When a patient with hemorrhoids has gonorrheal infection, the latter becomes a serious complication, and the treatment of one or both conditions is varied by the circumstances of the case. As to tumors and pregnancy, while the latter amounts to a complication, and often causes hemorrhoids, he thinks that, as a rule, only palliative treatment should be instituted. Stricture of the urethra, like cystitis, is a grave complication of hemorrhoids, or may be the cause of their development.

Dr. Joseph M. Mathews, Louisville, Ky., believes that no intelligent surgeon to-day uses carbolic acid for the treatment of internal hemorrhoids. In operating, the clamp and cautery may be used, or the ligature. The former method of operating is not so liable to be followed by the complications referred to by the essayist. He would operate on hemorrhoids, regardless of complications, such as pregnancy, a displaced uterus, etc.

Dr. J. R. Pennington, Chicago, stated that hemorrhage after an operation for hemorrhoids was slight, provided the operation was thoroughly done. He disagrees with the essayist that the use of the tampon in rectal operations is a source of infection.

Dr. C. Lester Hall, Kansas City, Mo., has never been able to devise a tampon for rectal use which did not prove a source of irritation and great pain to the patient.

Dr. Vincent J. Hawkins, St. Paul, Minn., said the ligature method caused considerable pain in many cases, even when properly applied, and he has had to give patients hypodermics of morphia to relieve suffering.

Dr. S. B. Taylor, Columbus, Ohio, agreed with Dr. Mathews that hemorrhoids should be removed when complicating pregnancy.

Dr. H. O. Walker, Detroit, Mich., believes that the day of the ligature has passed. He sees no reason why a surgeon should not operate for hemorrhoids the same as he does for any other condition.

Dr. Thomas Charles Martin, Cleveland, Ohio, concurred in the remarks of Dr. Walker that the ligature, as a method of operating, should be abolished. Hemorrhoids can be removed with clamp and cautery, without general anesthesia, if the operation is properly executed.

Dr. Jelks, in closing, spoke of the value of the rectal tubular speculum devised by Dr. Pennington. He does not believe that a severe hemorrhage, however, can be controlled by a tampon during a rectal operation. Dilatation of the sphincter at the time of the operation is necessary. Where he fails to divulse the sphincter or to dilate thoroughly the rectum, the patient always suffers more or less pain.

THE MASTOID OPERATION.

Dr. George F. Keiper, Lafayette, Ind., read a paper on this subject, and reported several cases. He directed attention to the possible injury of the facial nerve in operative work either on the mastoid or the middle ear. He believes that surgeons have been reckless in this regard and patients have suffered in consequence. If the facial nerve be wounded or cut off, all authorities are agreed that it can not be regenerated in from less time than from twelve months to two years, if regenerated at all. Hence the importance of taking due notice of its presence in operative work. Wounding of the facial nerve is liable to take place, notwithstanding every precaution that may be taken. A case operated on by the essayist showed partial facial paralysis, because, he believes, the facial nerve was misplaced.

Dr. William L. Ballenger, Chicago, condemned the use of the trephine for beginning a mastoid operation. He considers the chisel a better instrument, or the dental engine with a burr, or the Russian perforator.

MODERN SURGICAL TREATMENT OF HEMORRHOIDS.

Dr. Gustavus M. Blech, Chicago, contributed this paper. Since a hemorrhoidal tumor is but the result of an inflammatory process, the author believes that germ infection must be the main etiologic factor. A *locus minoris resistentiae* is produced by certain mechanical influences, which, however, in the light of modern pathology can be considered only as predisposing causes. In this class belong: straining during defecation, obstruction of the portal vessels from liver disease and abdominal tumors, pressure produced by the gravid uterus, pressure on the veins from impacted feces, etc. That germs are primary factors in the production of hemorrhoids the author is satisfied from observations in his practice.

Coming to the treatment, he said that in the earlier years of his professional career he was in the habit of removing internal and external hemorrhoids with the écraseur. His objections at present to this method are: 1. The wire of the instrument is very apt to break, leaving the operator in a dilemma, especially when the operation is half done. 2. The cut surface is not accurate, nor can it be regulated. No matter how close the wires are kept down to the base, the écraseur cuts as it pleases, and not as the surgeon desires it. 3. It frequently happens that after operation is completed, complete separation of the tissues does not take place, and if the screw is tightened, some tissue is drawn into the stem, and if continued, the stem is apt to bore itself into the rectal wall.

The author does not favor the Whitehead operation. His method of operating for internal hemorrhoids differs but little from the one in vogue by most surgeons. If he has to remove but one tumor of large size, he simply throws around its base a temporary ligature, cuts off the entire tumor, and then sews the wound in the direction of the axis of the rectum with interrupted sutures.

Dr. F. F. Ryan, Georgetown, Ky., operates with clamp and cautery, and with the ligature, but considers the former a more popular method, and he advises its use in every instance where there is no contraindication. He has not met with a case in which there were contraindications to its use.

Dr. Jelks, Memphis, said there was no more pain after the use of the clamp and cautery than after the ligature. He seldom encounters hemorrhage after the application of the ligature.

Dr. G. M. Blech, in closing, agreed with Dr. Jelks as to the painlessness of the ligature method in treating hemorrhoids. He has known patients to complain bitterly after treatment with the thermocautery, so that it was necessary to give rectal suppositories of morphin, etc., to afford relief.

BETA-EUCAIN AS AN ANESTHETIC IN EYE, NOSE AND THROAT WORK.

Dr William H. Poole, Detroit, Mich., read this paper, in which, after reporting a series of cases in which this agent was used, he drew the following conclusions:

1. Eucain is decidedly less toxic than cocain, therefore superior to it.
2. Its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug.
3. It produces anesthesia equally well and sometimes better than cocain.
4. It is superior to cocain, in that it causes no heart depression or other unpleasant systemic effect.
5. It causes no mydriasis, and no disturbance of accommodation, which is an advantage in some cases.
6. It is less dangerous to the cornea than cocain, inasmuch as it does not cause a desquamation of the superficial epithelium.

INTOLERANT ULCERATION OF THE RECTUM.

Dr. Sterling B. Taylor, Columbus, Ohio, presented this paper, in which he reviewed at considerable length the surgical anatomy of the anal portion of the rectum.

In the early stages of intolerant ulceration, physicians are inclined to discredit the presence of any severe pain, inasmuch as in its incipiency it is merely a rent or tear in the mucous membrane. This is prevented from healing by the lodgment of small particles of fecal matter, which produce irritation and inflammation and eventually painful ulceration. The extreme pain makes its appearance with the unhealthy granulations. Pain is not the only disagreeable accompaniment, as there is often annoying and sometimes dangerous hemorrhage, especially if the ulcer be located high. The usual seat of the ulcer is at the posterior commissure, and it is here that it is most painful. The anterior commissure is the next favorite seat of the ulcer.

In the treatment, the essayist recommends the method practiced by Martin, which he considers simple and effective. No general anesthesia is required, but simply infiltration anesthesia, which is practiced by the injection of a few drops of a 0.1 per cent. solution of eucain or cocain around the ulcer. A slight incision is then made through the membrane and integument down to, but not through, the sphincter. The operator then packs with a small piece of iodoform gauze. Bowels should be kept open with some laxative, preferably a mineral water. Apenta water is both pleasant and efficacious. Several cases were reported in which the Martin method of treatment was resorted to. Dr. Taylor holds that rectal ulcers can be excised under eucain anesthesia without pain.

OBSTRUCTIVE GROWTHS OF THE PYLORUS.

Dr. J. E. Allaben, Rockford, Ill., read this paper, in which he reported a successful case of pylorectomy. He drew the following conclusions:

1. Cancer is one of the most potent factors in the causation of death, with a tendency to constantly increase in frequency of occurrence.
2. Gastric cancer occurs in about one-fifth of all primary cases.
3. In gastric cancer the pyloric region is affected in 60 per cent. of the cases.
4. The treatment of gastric cancer directed toward a permanent cure is, in the present state of our knowledge, limited wholly to surgical methods.
5. As early total extirpation of malignant growths with the hope of permanent cure is the goal toward which we are constantly striving, and as these growths in gastric cancer occur at the pyloric region in 60 per cent. of the cases, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently prescribed for the cure of this malady.
6. Inasmuch as early diagnosis is the greatest requisite for directing proper radical treatment, the internalist and the surgeon should turn their best efforts in this direction.
7. If the operation of pylorectomy were performed before obstructive symptoms manifest themselves, and before the occurrence of metastasis, the immediate results would be as favorable as in any other abdominal work, and the remote results as good as in extirpation of carcinoma of the breast.

VALUE OF PROSTATIC EXAMINATION.

Dr. J. L. Boogher, St. Louis, Mo., read a paper in which he dwelt upon the value of prostatic examination in the treatment of associated affections.

WHAT BECOMES OF THE MEDICINALLY TREATED CASES OF APPENDICITIS.

Dr. Lewis Schooler, Des Moines, Iowa, contributed this paper. He predicts that the facts as disclosed by greater observation and the increasing experience of medical practitioners will inevitably show that the present position occupied by them is untenable. Patients who are treated by means of medicine only either die under such treatment or are later cured by operation. To the above there should be noted a single exception, namely, those cases which are spontaneously cured. This occurs by rupture into the bowel, vagina, bladder, or externally. Instances of this method of cure are familiar to all. It is therefore singular that, in view of such familiar occurrences, medical gentlemen do not take the hint that nature is so persistently urging on them and comprehend more clearly the fact that removal of the offending cause, organ and product, is the only rational procedure. It is the only one that is approved by nature, pathology, observation and science.

SURGICAL FEATURES OF APPENDICITIS.

Dr. Hal. C. Wyman, Detroit, Mich., followed with a paper in which he dwelt upon the surgical features of appendicitis.

Dr. J. A. Allaben, Rockford, Ill., cited a case which showed the folly of delay in surgical intervention.

Dr. F. F. Bryan, Georgetown, Ky., narrated four cases which emphasized the points brought out by the essayist.

Dr. J. O. Malsbury, Peru, Ind., referred to the importance of more careful diagnoses on the part of internalists, so that cases suitable for the surgeon should be referred to him without delay for operation. He classified cases of appendicitis as inflammatory and mechanical.

Dr. Harold N. Moyer, Chicago, said he formerly regarded this disease as a surgical one, and that when a case was diagnosticated as such, it should at once go to the surgeon. He does not take that view now. He believes many cases belong to the internalist. Indiscriminate operations for appendicitis are followed by a greater mortality than from those treated medically.

Dr. J. N. Bartholomew, Chicago, looks on appendicitis as a surgical affection from beginning to end, and as the result of germ infection. He favors early operative intervention.

Dr. C. K. Brunner, Greenfield, Ind., is firmly convinced that he sees many cases of appendicitis that never become surgical, and these, when properly treated medically, recover.

Dr. J. Humphery, Henderson, Ky., said the surgeon and physician should work hand in hand in cases of this disease. They should discriminate between medical and surgical cases.

Dr. T. A. Lancaster, North Manchester, Ind., quoted the opinions of Keen, Morris and others in regard to this disease, and said they were undergoing material changes, in that they were not operating as much as they had been heretofore.

Dr. V. J. Hawkins, St. Paul., Minn., thinks many cases of the disease can be treated medically, while others require operation.

The discussion was further participated in by Drs. Charles B. Brown, Sycamore, Ill.; R. E. Haughton, Richmond, Ind.; J. Henry Carstens, Detroit, Mich.; S. K. Crawford, Chicago; James B. Bullitt, Louisville, Ky.; A. H. Cordier, Kansas City, Mo.; Frederick C. Schaefer, Chicago; Emory Lanphear, St. Louis, Mo., and closed by the essayist.

INTESTINAL OBSTRUCTION FROM BILIARY CALCULI.

Dr. J. Wesley Bovee, Washington, D. C., read this paper. He stated that intestinal obstruction from biliary calculi is very uncommon. Brinton found in 500 cases of intestinal obstruction but 24 cases due to gall-stones, and Leichtenstern found but 41 in 1544 cases of bowel occlusion. In the Manchester Royal Infirmary but one case in 50,000 patients treated for all troubles was found. As it is a condition practically limited to late life, its rarity is to be expected. The author then dwelt on the varieties of obstruction, the location, causes, symptoms, and prognosis.

In considering the treatment, he stated that various remedies have been employed. Hippocrates, and later others, recommended injection of air into the bowel. Tobacco smoke and infusion and different gases have been thus employed. Purgatives are positively harmful. Morphia and belladonna are the two best drugs in this condition. Of course, electricity has not been omitted. With medical treatment, nearly half recover, but is that a sufficiently large proportion? In 1672 Barbette recommended laparotomy for acute intestinal obstruction, and as abdominal surgery is now practiced its use in acute obstruction of the bowel from biliary calculi should give brilliant results. Medical treatment may be used for a short time, and, failing, should be superseded by laparotomy, with a careful exploration of the abdominal and pelvic contents. The seat of obstruction being found, the condition of the patient and the degree of mobility of the stone in the bowel will guide the operator in the subsequent steps. The plan of Tait, passing a strong needle obliquely through the bowel wall into the stone to break it up, may first be tried, the puncture wound being closed by a Lembert stitch. This failing, the stone should, if possible, be pushed higher in the bowel and a longitudinal enterotomy done, with extraction of the stone.

Gangrenous bowel, perforation, or localized peritonitis, with or without pus, should be treated *secundum artem*. It is always well to look for a second obstruction, as this has caused death in some cases. The deaths following laparotomy for this condition are nearly always from shock or sepsis, a strong argument for early operation. It would not seem improbable that early laparotomy in these cases should have a mortality of less than 10 per cent.

ADDRESS IN SURGERY.

Dr. Lewis S. McMurtry, Louisville, Ky., delivered this address. He chose for his subject "The Essential Requirements of a Modern Operative Procedure." He said that within the past fifteen years the province of surgery and its scope have been greatly enlarged. Many diseases and injuries that were formerly treated on the expectant plan and by palliative measures, with little hope of permanent relief or cure, are now cured by judicious surgical intervention. Notwithstanding the increase in hospital facilities in cities and towns, many important surgical cases must receive immediate attention at the hands of the family physician from the very nature and urgency of the disease or accident. Such cases are classified as emergencies, and they include many major as well as minor injuries. When a surgical operation is to be done, either major or minor, certain fundamental principles of asepsis should be observed, and yet it is comparatively exceptional in private homes for minor surgical procedures to be carried out without the presence of pus following operative intervention. There are three important conditions to be observed, or three important steps. The first is the administration of the anesthetic. This requires skill, which can only be acquired by practice, hence medical students should receive practical instruction in the administration of anesthetics, a thing that is only done in a few of the institutions of this country. The second element of a surgical procedure consisted in the control of hemorrhage. In the early days of abdominal surgery it was common to disregard the question of hemorrhage. All those present would remember the days when the drainage-tube was more frequetly used than it is now, and that within forty-eight hours after an operation it was customary to pump out considerable quantities of blood as the result of oozing from small vessels that were ignored in the operation. Nowadays, when more attention is given to hemostasis, hemorrhage is lessened on account of attention being given to the small vessels. A third indication, and the one to which he devoted the remainder of his remarks, was the important matter of asepsis.

NASAL STENOSIS.

Dr. John J. Kyle, Indianapolis, Ind., read a paper in which he discussed the treatment of nasal stenosis due to deflection of the nasal septum, with or without thickening of the convex side. In his opinion the most frequent cause of deflection is trauma. Ulceration of the septum or inflammation within the septum, as noted in a child suffering with congenital syphilis, and hypertrophy of the turbinates, are causative factors. A strumous or uric-acid diathesis may predispose to perichondritis and subsequent deflection. The author showed different forms of deflection by passing around diagrams.

Speaking of the surgical treatment, he mentioned the operation of Asch as being the most popular, and believes it will bring about a positive result.

REMOVAL OF CERVICAL SYMPHATETIC.

Dr. Emory Lanphear, St. Louis, Mo., contributed a paper in which he dealt with the removal of the cervical sympathetic for epilepsy, exophthalmic goiter, and glaucoma He mentioned the work of Jonnesco and other surgeons along this line, saying that this field of surgery was worthy of further study and investigation.

Dr. Harold N. Moyer, Chicago, said that the benefit to be derived from operation in exophthalmic goiter is not very promising. However, the subject was worthy of further experimentation. He believed the same thing applies to epilepsy. Some benefit might be accomplished by operating on these cases at an early date. If the operation is late, very little, if any, benefit will be derived from it.

SURGERY OF THE TURBINATED BONES.

Dr. J. A. Stucky, Lexington, Ky., read a paper on this subject. The author did not discuss operative procedures on the turbinated bodies, nor on any of the soft tissue covering the bone, but rather the bone itself. While it is true that the tissues covering the bone are far more frequently found in a pathologic condition, and require surgical treatment, it is also true that the bone itself in many instances is at fault. When this is the case, the mucous membrane and turbinated bodies may be entirely obliterated by chemical and electric cautery, or scissors, forceps and snare, and the latter condition of the patient be worse than the former, because of the remaining cicatricial tissue and unnatural dryness of the parts.

The author then called attention to what seems to him to be the best method of removing a part or whole of the bone. The first and most important desideratum in all intranasal operations is to remove only just as much tissue as is absolutely necessary. The crushing or punch forceps, spoke-shave, and snare should only be used in exceptional cases. In removing a part or the whole of the middle turbinate, correctly shaped scissors are the only instrument needed. For this purpose he has found none equal to those devised by Dr. C. R. Holmes of Cincinnati, one for each turbinate, right and left. For turbinectomy or turbinotomy of the lower bone, the narrow-bladed scalpel, saw and strong straight scissors are needed. An incision through the soft tissues is made along the edge of the bone; this is peeled back with the back of the scalpel and the bone exposed. Should this be too firm to cut with the scissors, a narrow, thin saw is used.

In cases where the knife, saw and scissors can not be used to complete the operation on account of the size, depth and conformation of the nasal chambers, the snare is used to complete the removal of the posterior portion. Little or no dressing is needed after the operation, except when the lower turbinate has been entirely removed; then strips of gauze placed smoothly over wounds are allowed to remain twenty-four or thirty-six hours, then carefully removed, after thoroughly softening with 50 per cent. hydrogen dioxid. The subsequent treatment consists of keeping the parts clean until union is complete.

Dr. William L. Ballenger, Chicago, concurred with the essayist as to the method of operating. He has seen the type of osteitis mentioned follow the use of the snare, and the wound persist in discharging pus. An instrument that has a greater cutting surface than the snare for operating on the turbinates is certainly desirable.

Dr. O. J. Stein, Chicago, said the average rhinologist has a tendency to ignore the bone in operating on the turbinals, that is, he uses the snare or some other instrument to remove the soft tissues, but ignores the bone, which is of more importance.

(To be continued.)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Abstract of Proceedings of Twelfth Annual Meeting, Held at Indianapolis, Ind., Sept. 19, 20 and 21, 1899.

(Continued from Page 915.)

LAWSON TAIT.

Dr. Charles A. L. Reed, Cincinnati, Ohio, delivered a memorial address on Lawson Tait, which is published in full in the Journal of October 7.

THE RIGHTS OF THE UNBORN; THE PREVENTION OF CONCEPTION.

Dr. E. J. Ill, Newark, N. J., selected this for the subject of his presidential address. He said that an abuse, fostered by the security that aseptic surgery gives us, has gradually crept into the work of many all over the civilized world.

The rights of the unborn are often not respected as they should be, and as a strict regard for truth, conscientiousness and careful professional thought on our part would indicate. The right of the unborn would be more respected if it could secure for itself competent legal authority to represent it before a court of law.

He holds that the induction of abortion is performed too frequently; that the law and custom of consultation leaves a wide field for opinion, judgment and professional courtesy. Too frequently the practitioners sympathy runs away with his reason. The frequent deaths of the unborn, as caused by the regular profession legitimately, must ever remain a sign of weakness and impotence of an otherwise noble and humane profession.

The indication for such an operation must greatly change with the advances of therapeutics. Before long we shall be told that the life of the fetus must not be taxed less than that of the mother. When that becomes an axiom our resources will increase to an astonishing extent. Changes in that direction have been very apparent during the past few years.

Cesarean section is now commonly performed, with the greatest likelihood of saving mother and child, and with much less risk to the mother than was formerly incurred by induced abortion. He discusses pregnancy complicated with myomata, carcinoma of the cervix, hyperemesis, etc.

No alternative has yet been found for the non-replaceable complete prolapse of the pregnant uterus, and retroflexed incarcerated uterus, when even a celiotomy will not help us. When we find ourselves confronted with cases that need artificial termination of a pregnancy, let the indication be drawn so close that the most sensitive conscience will not find fault. Though we have no right to chastise our patients for their morality, it behooves us to tell them where physical misery depends on normal decrepitude and to decline our assistance in their illness unless proper regard be given to our admonitions. This is especially the case where we are asked to treat women sick as a result of the prevention of conception. The symptoms produced are mainly local and nervous, the former preceding the latter.

Among the local symptoms we find increased mucous discharges, frequent micturition, bearing down pubic pain, pain in both iliacs and the small of the back. Standing and walking becomes painful; thus, owing to lack of exercise, there results a condition of slowness in the action of the bowel, a disturbed digestive and heart action. With failure of the general health the nervous system fails. These patients tell us of several attacks of nervous prostration.

A physical exploration shows increased vaginal discharges; the vagina appears red and sensitive; its mucous lining thickened. The cervix and corpus are enlarged. The cervix looks blue with turgescence of its veins, and an abundant quantity of blood is poured from them as soon as punctured. The quantity of glairy mucous which pours from the cervix is greatly increased over the normal. Frequently the uterus is retroflexed, rarely retroverted, and the uterosacral ligaments so sensitive that they can barely be touched. With these symptoms we nearly always find enlarged, prolapsed and sensitive ovaries. Among the early symptoms will be an increased menstrual flow and with it often an easing up of the congestive symptoms. Later this becomes less than normal and makes the prognosis an exceedingly bad one. One can safely say that, when this stage is reached, the patient has become an invalid and permanently sterile. In these aggravated cases menstrual pain begins several days before the flow, and is marked by radiations from the iliac fossæ down the anterior and inner aspect of the thighs. Now we find them complaining of a peculiar pain midway between two periods. In these bad cases intercourse has become painful and often disgusting. It has been the writer's experience to see a number of cases of myomata in women, of 30 years or less, who confessed to having followed such practices. Nervous symptoms manifest themselves variously from occipital and vertex headaches and minor hysteric manifestations, to the graver forms of hysteria and semimelancholia.

SECOND DAY—AFTERNOON SESSION.

RETROPERITONEAL TUMORS, WITH REPORT OF A CASE AND PRESENTATION OF SPECIMEN.

Dr. Rufus B. Hall, Cincinnati, Ohio, read a paper on this subject. He stated that retroperitoneal tumors that are operable are rare. His experience in dealing with them, so far as removal of the tumor is concerned, has been limited. All retroperitoneal tumors are difficult to remove, and the operation is attended with a high mortality. They are often malignant. The specimen presented to-day is probably a fibroid tumor of the uterus. When the tumor was removed, eighteen months ago, it was soft and so unlike a fibroid tumor in appearance and consistency that he doubted this very much. The attachment of the uterus was so indistinct that one would doubt that it had its origin from that organ. The tumor was wholly postperitoneal, occupying the patient's right side, and almost wholly filled the pelvic cavity, and projected well into the abdomen. The following is a report of the case:

Mrs. B., aged 38, consulted him on Feb. 14, 1898. She was well nourished and always enjoyed good health until eight months before her visit to him, when she first noticed a small tumor in the right iliac region, not larger than a small orange. The patient gave a clear and precise clinical history up to the time of her visit, which was corroborated by her family physician. She had been married seventeen years, and was the mother of two children, the younger 13 years old. She had never had a miscarriage, or been treated for any pelvic or uterine disease previous to the present illness. She did not suffer much inconvenience other than "a heavy, dragging feeling" in the pelvis and abdomen.

On physical examination a tumor was found that had the appearance of a semisolid mass, nearly as large as an adult head, occupying the right side of the abdomen and extending well down into the pelvic cavity. The uterus, which was not enlarged, was retroverted, and the cervix presented at the vulva. The patient complained of frequent micturition, which was without pain. From physical examination one was inclined to believe that the tumor was solid, probably a fibroid tumor of the uterus fixed by adhesions, yet the clinical history of the rapid growth did not coincide with this conclusion. The possibility of an intraligamentous ovarian tumor was discussed, but could not be certainly determined. The patient was apprised of the fact that the operation for the removal of the tumor would probably mean a hysterectomy. If, on opening the abdomen, the tumor proved to be an intraligamentous cyst, a hysterectomy might be avoided.

She entered his private hospital on March 7, 1898. The operation was made March 10, and the tumor removed. On opening the abdomen he found the large tumor entirely postperitoneal. Near the center of the tumor was the head of the colon, and the mesentery, pulled up over the side of the tumor, corresponded with the middle line of the patient's body. The veins and arteries over this surface were greatly enlarged, and to make an attempt to remove it looked like a hazardous surgical procedure, yet to leave it promised nothing. By taking hold of the tumor mass with the two hands it was slightly movable, suggesting that it might be detached without great difficulty. The dilated ureter could be seen over the top of the tumor to the right of its median line, and the peritoneum could be picked up between the fingers over the top of it. He regarded the tumor at that time as a fibroid of the uterus, developing from the uterine body near the junction of the cervix with the body, and at once decided to make a hysterectomy with removal of the tumor.

The operation was made in the following manner: He first ligated the ovarian artery on the patient's right, and divided the vessel between two ligatures. He then ligated the ovarian artery on the opposite side, divided it between two ligatures, cut through the broad ligament on that side and divided the peritoneum above the top of the bladder over to the tumor and pushed the bladder down. He then ligated the uterine artery on the patient's left side, cut across the cervix and clamped the uterine artery on the patient's right. He then divided the peritoneum behind the tumor up to a point on the tumor connecting with the incision made in front of the uterus. He then enucleated the tumor from below upward, without much difficulty and with little loss of blood. There was general oozing from the large raw surface, and this induced him to make total extirpation of the cervix and drain through the vagina. His greatest anxiety during the operation was to avoid injuring the ureter. There was no injury to this important structure. The patient made an uninterrupted recovery, leaving the hospital inside of five weeks, and remains in good health at this time.

There is a difference of opinion among experts as to the nature of this growth. Some say that it is a spindle-celled sarcoma, and others that it is not malignant at all. At the time of its removal Dr. Hall felt reasonably certain that it was malignant. The clinical history favors this opinion, yet the appearance of the tumor now is that of a fibroid of the uterus. He thinks it is yet too early to say definitely, from the clinical history of the patient, whether or not it is malignant. He knows of one patient who was operated on by a professional friend for a sarcoma of the left ovary. She made a perfect recovery, lived ten years, and he made a second operation a year or more ago and removed the opposite ovary for a perfectly smooth, round, pearly white, hard tumor that proved to be sarcoma. The patient recovered and is now enjoying good health.

The record of this case shows that it is not always necessary o abandon an operation when the tumor is found to be retroperitoneal. In some cases these tumors can be removed without great difficulty, and the patient will make a complete and permanent recovery. It may not always be possible to determine which case can be safely operated on until after the abdomen is opened. If the tumor is somewhat movable and the peritoneum not firmly agglutinated to the tumor mass, these tumors can be removed. Sufficient time has not elapsed since other cases were subsequently operated on to justify the essayist reporting them as permanent recoveries.

Dr. Charles A. L. Reed said that the technic of the essayist n this case was very similar to that with which his name Dr. Hall) had become identified during the last two years. This, while somewhat a modification of the principle of hysterectomy adopted by Kelly and others, is still original with the reporter of this case as applied to intraligamentary and retroperitoneal tumors in this situation. The question stands out as to the expediency of doing hysterectomy in a case of intraligamentary tumor on one side. He has had occasion to deal with a few intraligamentary growths, and these were not essentially different from the cysts, so far as the anatomic conditions to be dealt with are concerned. It makes but little difference whether the tumor is solid in this situation, or cystic, so far as the difficulty of its removal is concerned. But its removal by the old technic, viz.: that of direct enucleation by splitting the peritoneum and peeling it out, is a procedure that is fraught with so much danger, primarily and secondarily, that it has occurred to the speaker that this modification is certainly justifiable, although it carries with it the ablation of the appendages of the other side and the practical termination of the reproductive life of the woman.

Dr. Willis G. MacDonald inquired as to the relation of the common iliac artery and vein to the tumor, to which Dr. Hall replied, "they were behind it, but the ureter was lifted up in front of it."

Dr. MacDonald, in resuming, said that an investigation of the character of retroperitoneal tumors and differences of opinion among pathologists may very reasonably occur; but the clinical history usually shows, either before or subsequently, that by far the larger proportion of these tumors have a sarcomatous element in them, while they may be of the nature of fibroma, fibromyxoma, etc., yet after certain years of growth there will be more or less evidence of spindle-celled sarcoma. A few months since he adopted a somewhat different technic in the removal of a retroperitoneal tumor, which he described at length.

RUPTURE OF THE PUERPERAL UTERUS, WITH CASES.

Dr. James F. W. Ross, Toronto, read a paper with this title. The essayist said that it is well known that rupture of the uterus might occur before or during labor. To diagnose a rupture of the uterus before labor was extremely difficult. It is a subject about which very little is known. The cases under discussion were not those before labor, but those occurring at the time of labor. Every practitioner should be familiar with the symptoms of this condition, so as to be able to recognize it at as early a date after its occurrence as possible. He then mentioned the different causes of rupture of the uterus, which are well known.

He stated that the question as to whether rupture of the uterus occurs more frequently in the first or in subsequent labors is still one that has not been settled. Some authorities claim that rupture of the uterus is more frequently met with in primiparous cases than in multiparous ones; others claim it is more frequently met with in multiparous than in primiparous cases. Some state that rupture of the uterus may take place before the membranes have been ruptured. He considers that the duration of labor has a great deal to do with the production of rupture of the uterus, as the organ seems more prone to tear after its structure has become impaired by continual and prolonged contraction. The fundus is less frequently ruptured than the body, and the body less frequently than the cervix. The posterior wall of the lower segment seems to be the commonest site of rupture, and the tear is generally found to run toward the left. These tears usually extend over a distance of three or more inches. He considers that cases of rupture of the uterus might be divided into four groups: 1. Those which are beyond hope from the first, that have the usual classic symptoms of rapid pulse, dyspnea, precordial uneasiness, nausea, vomiting, and cold perspiration. 2. Those cases that have, owing to delay, passed beyond the operable stage and have become ill with commencing septicemia and peritonitis, the peritonitis and septicemia drawing attention to the case, and this extra attention revealing the fact that rupture of the uterus has been present without giving rise to early symptoms to indicate its existence. 3. A class of cases in which rupture is not immediately fatal, in which it is early recognized, and in which the patient is in good condition for operative interference. 4. A class of cases that may occur in which rupture is never recognized, but in which septic symptoms develop without any evident reason. In a case in which a very rapid pulse follows a fairly severe labor and peritonitis sets in, rupture of the uterus must be considered when endeavoring to discover the cause of the abnormal course of the puerperium.

Intraperitoneal hemorrhage can be diagnosed by percussion in the loins. The essayist stated that he had diagnosed intraperitoneal hemorrhage in this way on several occasions. The percussion sound may change as a consequence of the changed position of the clot, and when it does change, it does so slowly. He stated that since reading a paper before the Buffalo Academy of Medicine in January, 1898, he had met with two cases of rupture of the uterus. These were related in detail. One case occurred at full term, and the other during the fourth month, the latter having been produced by an attempt to empty the uterus. In each case, drainage of the peritoneal cavity through the rupture and frequent irrigation were adopted. Each patient recovered after a long-continued illness. The rupture was not recognized in either case in time for interference by celiotomy.

In summing up the treatment of these cases he considered it necessary to treat the cases according to the class to which they belong. In the first class the patient is practically moribund before the physician in charge can call counsel. In the second class, in which there were no symptoms to indicate that rupture of the uterus had occurred, the treatment must vary from that carried out in Class 3. The treatment in the second class was that indicated in the cases reported, viz.: thorough drainage and thorough cleansing from below. He considers that an abdominal operation under such circumstances would be unfavorable and injurious to the patient. Already adhesions have formed to protect the general peritoneal cavity, and these must of necessity be broken down and increase the risk. In the third class of cases in which rupture is recognized, in which the patient is not moribund from shock and hemorrhage, there can be but one line of procedure to carry out, viz.: celiotomy, thorough inspection of the part, removal of blood clot from among the intestines, thorough stoppage of hemorrhage from the wound either by approximating sutures or gauze packing, and the establishment of thorough vaginal or abdominal drainage, or both. In the opinion of the essayist, suturing the rent was scarcely called for, as by this procedure the operation is unnecessarily prolonged, and the length of time consumed by such an operation is of importance. Anyone who has had experience with this tragedy of the lying-in ward must have noticed that the edges are so bruised as scarcely to hold a suture. To pare them off means increased hemorrhage and increased delay. He prefers packing with gauze, and is satisfied that the uterus afterward becomes perfectly normal. Hysterectomy under such circumstances must prolong the operation, increase the shock, and unsex the patient.

In the treatment of the fourth class of cases, or those unrecognized, the question of improvement in means of diagnosis must be considered. How can it be discovered when it presents no symptoms? When inflammation and septicemia are present, it is too late to make a diagnosis. He has not the fear of the exploration of the interior of the uterus ordinarily taught by the text-books. He does not consider this a sort of sacred chamber into which the finger of the accoucheur should seldom be put. He believes that in all cases of septicemia following labor, in which there is a greatly increased pulse, without any apparent reason, the interior of the uterus should be thoroughly explored with the finger to ascertain the absence or presence of a rent.

Dr. John M. Duff narrated an exceedingly interesting case of accidental vaginal hysterectomy during delivery.

Dr. W. Japp Sinclair, Manchester, England, by invitation, stated that he had not seen very many cases of rupture of the uterus, and his experience has been that treatment is not very successful. He had seen a few cases in the hands of other practitioners, and, without exception, they had been the result of sheer ignorance and want of judgment.

Dr. Willis G. MacDonald reported a case in which the child and placenta had been delivered, and a number of feet of intestines came down and presented to the outside world, and an ignorant practitioner cut them off. Six hours later he was sent for. He opened the abdomen and used a Murphy button, but there was such a mixture of feces and blood in the abdominal cavity that the patient died.

WOUNDS OF THE LIVER AND BILIARY TRACT.

Dr. W. E. B. Davis, Birmingham, Ala., read a paper on this subject, in which he said that penetrating wounds of the liver were not common. The surgeon may inflict such injuries in the treatment of hydatid cysts and abscesses of the liver. Severe wounds usually prove fatal. There is often injury to the biliary canals of the liver and the extravasation of bile contributes to the fatal issue. He reported three cases illustrating injuries produced by the surgeon.

In one, a male, aged 60 years, there was only one-half ounce of pus found in the right lobe of the liver, but in searching for this small cavity a wound of very considerable depth and great size—perhaps two inches in length—was inflicted. There was very profuse hemorrhage, which was controlled by iodoform gauze packing. Great quantities of bile were discharged for three weeks. The patient made an excellent recovery, and he attributes this result not only to the drainage of pus, but to the opening up of some of the biliary canals which resulted in the emptying of the liver.

Another patient was a woman, 30 years of age, in whom there were attacks of pain, fever, and jaundice from a movable stone in the common duct; the liver became very much enlarged, and during an attack of peritonitis an incision was made and the right lobe of the liver freely opened and packed with gauze. There was no pus in this case. The patient rapidly recovered. The liver returned to its proper size and the stone was passed some months after, when the patient was being prepared for a radical operation.

He also reported the case of a woman, 60 years of age, whose symptoms indicated obstruction of the common duct. The liver extended almost to the umbilicus. No nodules were to be made out on the surface. There being no obstruction in the common, it was decided that the obstruction was in the hepatic duct or its branches. A free incision was made into the right lobe of the liver, with the hope of opening some of the biliary canals and thus relieving cholemia. Death occurred a few days after, from exhaustion. The patient was almost in a dying condition at the time of the operation. A large malignant nodule was found at the autopsy, in the transverse fissure, which completely obstructed the branches of the hepatic duct.

Dr. Davis stated that wounds of the biliary tract beyond the liver produced death, not so much from the sudden escape of bile as from the continuous pouring of fresh bile into the peritoneal cavity. Gallons of fluid would not cause death if there were protective adhesions. He reported a case of gunshot wound illustrating this point, where the patient was cured by repeated tappings, large quantities of bile being removed at the first operation.

He also narrated experiments on animals where the adhesions had given way after two weeks and death resulted from peritonitis.

He said that rupture of the liver might be limited to the upper or lower surfaces, or that the organs might be completely torn through, the parts being held together by the veins. In four cases in which he had operated on dogs and had removed more than one-third of the liver, all died. In one case in which he removed the extreme left lobe of the liver the animal made a complete recovery.

He detailed six cases of operations on animals, illustrating the fact that small quantities of bile could be injected into the peritoneal cavity without harm. In one case he injected as much as five drams of bile.

He reported twenty-three cases of operations on dogs to demonstrate the effect of bile on the peritoneal cavity. In those cases where there was only a small escape of bile, the animals recovered; in those where there was considerable extravasation, the animals died in from one to three days. The omentum and abdominal viscera in these cases were highly bile stained, but there was not the redness of intestines that is observed in septic peritonitis.

The treatment of these cases consists in promptly opening the abdomen, controlling the bleeding by gauze packing, and drainage. The essayist reported a large number of cases in which he had produced wounds of the gall-bladder and ducts of dogs which had been successfully dealt with in this way. The opening in the bladder or duct would close as quickly as the fistula of a cholecystostomy.

Dr. William H. Myers, Fort Wayne, Ind., followed with a paper in which he dealt with the past and present surgery of the gall-bladder and bile-ducts.

Dr. James F. W. Ross said that his experience in gall-bladder surgery was confined to thirty-seven cases, reports of which will be published shortly in detail. He hopes other surgeons would follow his example and publish their statistics. The experimental work of Dr. Davis is borne out by clinical experience. He has had actual clinical experience that has satisfied him that with Morrison's pouch behind a long glass drainage-tube with iodoform gauze, surgeons do not need to hesitate in any case of gall-stones with severe adhesions to operate, because he believes relief can be afforded in some way.

Dr. Robert T. Morris, New York City, spoke with especial reference to the entrance of bile into the peritoneal cavity, saying that a small amount of bile does not do very much harm unless it is accompanied by inflammatory products from the lumen of the gall-bladder. If we have mixed infection, or colon bacillus infection, which is so common in cases of gall-stones with empyema of the gall-bladder, then infection follows the course of the leaking bile more rapidly, the bile acting as a vehicle for carrying infection.

Dr. Joseph Eastman, Indianapolis, Ind., stated that in the Transactions of the Indiana State Medical Society, published some years ago, a report by Dr. Kemper of Muncie would be found of a case of enormously distended gall-bladder pushed up against the abdominal wall, having become adherent, and the pus and gall-stones and substance of the gall-bladder sloughed their way through and the gall-stones were discharged externally. Dr. Eastman cited two interesting cases which put his methods of diagnosis to a severe test.

Dr. Frank C. Ferguson, Indianapolis, Ind., exhibited a specimen showing the gall-stones still *in situ* in the gall-bladder. He has some experience in operating for gall-stones, and showed a Murphy button that had done duty twice in gall-stone operations.

Dr. Willis G. MacDonald said there can be no question that gall-stones do lodge in the common duct, notwithstanding the fact that opinions had been advanced to the contrary. He had himself operated on a case in which he removed gall-stones through the duodenum by an incision in it and dilatation, with a slight deviation of the opening of the common duct into the duodenum. Dr. McBurney, he said, had also reported two or three such cases.

Dr. J. Henry Carstens spoke of an interesting case sent to him which, he supposed was a diseased kidney, probably malignant, but which turned out to be one of gall-stones. The walls of the gall-bladder were an inch and a half thick. He had never seen anything like it. The gall-bladder was larger than his fist, with exudate and inflammatory products around it.

Dr. M. Rosenwasser spoke of the treatment of olive-oil in gall-stone cases, and said very little confidence could be placed in this method. It is very necessary to discriminate when a cure is said to be effected in these cases, by that or any other method.

(*To be continued.*)

Philadelphia County Medical Society.

Sept. 27, 1899.

MYXEDEMA.

Dr. A. A. Eshner reported a case of this affection, exhibiting patient. The history of this case is as follows: Mr. A. B., aged 51, a native of Russia, when first seen complained of pain in the region of the epigastrium, radiating toward the hypochondrium. The bowels were constipated and the patient sufered from nausea. Considerable mucus was expectorated. he facial expression is peculiar, with an exceedingly large flat ose, flabby cheeks, thick lips, tongue greatly enlarged, flat nd filling the entire buccal cavity, making the speech thick. he muscles of the back of the neck are prominent, the fingers arge and stubby, the thyroid palpable, the heart sounds hythmic and quite clear. The perspiration at times appears o be excessive. Under desiccated thyroid—5 grs. daily—the bdomen decreased in size and the patient has become able to inch the fingers.

Dr. Hammond spoke of a case of myxedema in which there eveloped posterior to the great toe, a sinus with ulcerated dges, which showed no evidence of healing under prolonged reatment. One special feature of the ulcerated spot was that he area surrounding it appeared to be quite anesthetic.

Dr. Robertson spoke of a case in which a woman, after being rightened, suddenly developed exophthalmic goiter, and later yxedema came on. Her daughter also suffered from myx- lema, rapid in onset. In one case there was a divergent quint present, but under the influence of proper glasses the ght improved. In one case there was a tendency toward emorrhages from the mucous membranes.

Dr. Solomon Solis-Cohen mentioned one case, for the most art confined to the soft palate, the uvula and arches being fected, the thyroid not demonstrable. He also referred to one hich had been presented before the Society, in which myx- lema and acromegaly coexisted in the same patient. He hought that the tendency toward hemorrhages in cases of yxedema might lead one to a false impression that the person as suffering from tuberculosis.

Dr. Mordecai Price asked as to the patient's appetite and bility to take food.

Dr. Hammond asked whether or not anesthesia existed in the ase presented, and also regarding the influence of heredity.

Dr. Eshner stated that the patient did not eat more than he ordinary person, and that in case of goiter there was always strong hereditary tendency. There is a close relation exist- g between goiter and myxedema. In all these cases there ust be some predisposing cause, perhaps to what is known as he neuropathic derangement. In the case reported, hemor- hages had not occurred. In regard to the electric change in yxedema none had been observed by writers on the subject.

Philadelphia Pathologic Society.

Sept. 28, 1899.

ULCERATIVE ENDOCARDITIS.

Drs. A. A. Eshner and **G. A. Pfahler** exhibited specimens f ulcerative endocarditis, and also of mitral and aortic val- ulitis. In the former the patient was a man of 40 years, ad- itted to the hospital in March, 1899. Dyspnea was very pro- ounced on the slightest exertion, palpitation present, the pulse trong and accelerated. A thrill was present at the apex-beat nd also at the base. Both systolic and diastolic murmurs ere heard at the fifth, sixth and seventh costal cartilages. he temperature remained slightly subnormal. In July both he murmur at the base and the apex became roughened in uality. Later in the month sweats and subnormal tempera- ure was observed, and on July 29 death occurred.

The autopsy disclosed the pericardium obliterated, the right uricle containing currant jelly clot, the right ventricle hicken fat clot. On the mitral leaflet was found a small oughened ulcer 2 cm. in diameter. The liver was atrophic, the ungs in a condition of edema, also showing tubercles.

MITRAL AND AORTIC VALVULITIS.

In this case the history was that of a man 42 years of age, dmitted in July, 1899, complaining of dyspnea and pains in he chest. He had previously complained of pain in the pre- ordia, and nine months previously had suffered from gonor- hea. Physical examination revealed a murmur at the apex- eat, transmitted to the axilla. In the urine were found both lbumin and hyaline casts. Slight jaundice was present and, t times, dyspnea was marked. On August 7 it was noticed hat the cachexia had increased, and also that a petechial rash as present. A fetid gangrenous ulcer finally developed in the outh. Death occurred on August 11.

At the post-mortem the body was found much emaciated, and icteric. Adhesions existed at the apex and base of the heart, and there was found atheromatous condition of the aorta extending to the valves. In the walls of the right ventricle was found a protrusion projecting into its cavity. The lungs were soft in consistency. The splenic pulp was not increased. The mucous membrane of the ilium was swollen, the liver yellowish-brown with yellowish-brown bands surrounding its lobules.

Dr. J. Dutton Steele thought, in regard to the protrusion into the ventricle, it might be one of aneurysm of the sinus of Valsalva, twenty-seven cases having been reported, and two in which the aneurysm had ruptured into the right ventricle.

DERMOID CYST OF OVARY.

Dr. J. H. McKee exhibited a specimen removed from a child 7 years of age. The tumor had been very large, extending from the spleen to the right anterior superior spinous process of the ilium. It had a lobular appearance and presented the characteristics of a tumor of the left kidney, or an enormous spleen. It was bilobular and contained skin, hair, bone, cartilage and vascular tissue.

BRAIN TUMOR.

Drs. David Riesman and **A. C. Wood** presented a specimen of brain tumor occurring in a man 51 years old. When 11 years of age, he had received a severe fall, giving rise to what was termed "spinal disease." More recently he had suffered considerably from sick headache, mostly confined to the right side, and relieved by application of leeches. There had been no disturbance of hearing. The patient finally developed an apathetic condition and also a slow hesitating speech, but no aphasia. Five days before death, left-sided hemiplegia came on, involving the arm and leg, but not the face. The temperature remained normal or only slightly elevated; the pulse 114 or 115. There was no albumin in the urine.

Autopsy showed a brain tumor in the lower right frontal lobe. It fluctuated and was covered over by brain tissue and pia, and on incision was found to contain about 15 per cent. of fetid greenish pus, showing evidences of infection with the bacillus pyocyaneus, as is usual in most brain abscesses.

Brain abscesses in this region are rare. The cause for the abscess remains obscure.

Dr. W. M. L. Coplin spoke of a case of brain abscess in which the ethmoid and sphenoid sinuses had been involved. In this case hernia cerebri developed. Infection was also by the bacillus pyocyaneus.

Dr. D. L. Edsall spoke of a case of brain abscess occurring in a child. The case had been diagnosed as one of melena. The child had subsequently become slightly blind, and convulsions developed shortly before death. No avenue of infection could be found.

Detroit Academy of Medicine.

TUBERCULOSIS OF PERITONEUM.

Dr. Hal C. Wyman read a paper with this title. After speaking briefly of the possible modes of entrance of the tubercle bacillus into the peritoneum, the chief diagnostic points were described; the impaired general health; fluid in the abdominal cavity; an abnormal temperature, and constant tenderness and pain. The surgeon usually sees a case after catharsis and antisepsis of the intestinal tract has been used by the physician to little effect. These methods may be successful in some cases, but never have been so in the writer's experience. Operative interference, in which the abdomen has been opened and drained, seems to be essential. As adjuvants to the operation, pure air and an entire change of environment are very useful. The kind of food that was used while the disease was being contracted should so far as possible be replaced by another sort. Where a change of climate is possible some good can be secured by a change in the house, especially if the new house is more hygienic. An instance was cited where a patient after operation was put in a house built especially for her; her diet was also changed as much as possible and as a result she rapidly improved and was entirely cured.

THE X RAY IN LARYNGOLOGY.

Dr. Wadsworth Warren read a paper on this subject, and said in substance:

To the laryngologist the X-rays have thus far been chiefly of service along four lines. 1. In the detection and localization of foreign bodies. 2. In determining ossification in the cartilages of larynx and trachea. 3. In the diagnosis of intrathoracic growths involving the respiratory tract, causing either compression of the trachea or some form of vocal chord paralysis. Rosenberg's report last year, in the *Archiv f. Laryngologie*, contains the most complete information on this subject. The shadow on the fluoroscopic screen depends on the density and specific gravity of the growth examined; carcinoma giving a denser shadow than lymphoma; the shadow being more dense wherever calcification has taken place. Aortic aneurysm has always a characteristic circular or elliptic shape, pulsating equally in every direction. An esophageal carcinoma attached to the aorta would pulsate with it, but the pulsation shadow would not be symmetric in every direction. In the early diagnosis of tubercular processes in the lungs, Kelsch of France proposed the application of the rays for the early diagnosis of tuberculosis in the army. Trudeau suggests that the height of the excursion of the diaphragm and presence of a light shadow in suspected areas may help toward reaching a correct conclusion before other signs are noted. Much experience is necessary before the observer can accurately interpret delicate variations in the shadows seen with the fluoroscope.

Treatment of pulmonary tuberculosis by the X-rays has proven unsatisfactory and inefficient. Successful results in treating lupus of the face have been reported by Albers, Schönberg, Kümmel, Krause, and others. The writer reported a case, a child 3 years old, in whom a foreign body had been aspirated. Variations in the symptoms, caused by excursions of the object in the trachea and bronchi, made its localization a matter of uncertainty. The fluorscope showed a shadow at the level of the second and third tracheal rings. A simple tracheotomy afforded opportunity for the removal of a metal hook, five-eighths of an inch long and one-fourth wide, the child making an uneventful recovery.

In another case it had been possible with the fluoroscope to accurately outline a thick-walled abscess cavity in the lower lobe of the right lung, occurring after imperfect resolution in a case of pneumonia. The patient, 70 years of age, and his family, rejecting surgical interference, very successful drainage was obtained by placing the patient on a cot, the foot of which was raised twelve inches from the floor. Profuse expectoration occurred while the patient was in this position. This procedure was resorted to for two hours each morning and one hour in the evening, with great benefit, the patient making decided gain in weight and strength.

In a third case, a man 65 years of age, the symptoms closely simulated those of spasmodic stricture of the esophagus, with noisy deglutition and eructations of food. This case had been variously diagnosed as a pulsating diverticulum of the esophagus, chronic pharyngitis, and aortic aneurysm or dilatation. In the writer's opinion the trouble was caused by a solidified mediastinal or peribronchial lymphatic gland, at the side of and behind the esophagus. The fluoroscope showed an irregularly semicircular shadow at the left side of the sternum at the level of the first rib. Since this opinion was given the expected laryngeal complication has appeared, abductor paralysis of the vocal chord. In a case reported by Chiari the shadow was interpreted by some observers as an aortic dilatation, but the section showed an esophageal carcinoma attached to the aorta and pulsating with it. Sendziak of Warsaw has reported an analogous case where an enlarged lymphatic caused like symptoms.

Detroit Medical and Library Association.

Sept. 25, 1899.

ANATOMY OF THE TEMPORAL BONE.

Dr. E. Amberg presented a paper on this subject, and said that nowhere else do we find so many parts of the system in one small space, nor can we find so many difficulties in the treatment of serious affections than in this bone; further, the difficulties are increased by the fact that the mastoid portion shows a great many variations, which require the greatest attention when surgical interference is necessary in diseases of this portion of the bone. He presented a large numbr of specimens of the temporal bone and various photographs illustrating variations in the size and configuration of the mastoid. He referred to Professor Trautmann's extensive investigations along this line, with reference to the situation of the lateral sinus and the cause of its displacement, the end in view being, if possible, to be able to tell, from a given individual, by certain fixed methods, the position of the lateral sinus, that it might be avoided when doing a mastoid operation. Ten signs were enumerated, which Trautmann found when the lateral sinus was displaced forward. The Doctor, in his examination of five skulls, found that he agreed on the whole, with Trautmann. Regarding the principles on which surgical operations on the mastoid are to be conducted, he believes that the outer opening must be made so large that a good view of the cavity in the bone may be obtained, and that the chisel is the best instrument for reaching this cavity. Besides the points above emphasized, the following he considerd important: Operations on the ear should be done only after considerable practice on the dead body, or on specimens; the field of otology has become so large that the time seems not to be far distant when the combination "oculist and aurist" will cease.

Wayne County Medical Society.

Sept. 21, 1899.

ULCERATION OF THE RECTUM.

Dr. R. Hislop read a paper on this subject. The main points introduced were: An accurate diagnosis of the disease is all-important; non-malignant ulcers are often deceptive because of the absence of pain; the operator's fingers and thumbs are better than any mechanical appliance for dilating the sphincter ani, because they are least liable to tear the mucous membrane during the divulsion; women do not tolerate so wide a dilatation of the sphincter as do men; suppositories for ulceration low in the rectum are undesirable, because all druggists are not alike in producing a proper suppository.

Sept. 28, 1899.

CROUP.

Dr. H. R. Henderson read a paper on this subject and gave the different diagnosis between time, membranous, and false or spasmodic croup. He said they were often very difficult to distinguish, but the history of onset, frequency of attacks and subsequent course will make diagnosis sure. A little chloroform, held to the nostrils of the child, will, if spasmodic, cause an immediate relief; while the symptoms of membranous croup will not be changed by such a procedure. The classic symptoms of membranous croup were enumerated. The preventive treatment consists in keeping up the general tone of the child's system and removal of existing causes. For the active treatment, hot poultices, steam inhalations, anitomy, ipecac, and antipyrin were given as useful, when membranous croup is diagnosed, diphtheria antitoxin should be given at once; calomel fumigations, or if the dyspnea is urgent, intubation. The Doctor emphasized the point that antitoxin should always be given in case of doubt.

The Phenomenon of Pain.—As a result of some experiments on the phenomenon of pain, made by Arthur McDonald of the United States Bureau of Education by means of a "temple algometer" he finds that in general pain decreases as age increases; the left temple is more sensitive than the right; as is also the left hand over the right. There is an increased obtuseness to pain between the age of 10 to 11, a decrease from 11 to 12, an increase from 12 to 13; from 13 to 17, while the right temple increases in obtuseness, the left temple increases in acuteness. Girls in the private schools, who have wealthy parents, are much more sensitive to pain than girls in the public schools whose parents are not wealthy and who are accustomed to work. University women are more sensitive to pain than are washerwomen, but less so than business women; there seems to be no necessary relation between intellectual development and pain sensitiveness, and an obtuseness to it seems to be due more to hardiness in early life. To summarize, acuteness to the sensitiveness of pain is greatest with girls of the wealthy classes, then with self-educated women, then with business women, then with university women and lastly with washerwomen.

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SATURDAY, OCTOBER 14, 1899.

RENAL INSUFFICIENCY.

We have taken occasion twice, recently[1], to discuss he condition described by Koranyi as renal insufficiency, nd we wish now to record some additional observations nade by the same authority. The subject is rather a ifficult and intricate one, and while, perhaps, the utilty and the practical value of its study may not yet be pparent, it must be borne in mind that no truly scienific discovery is without some utility and value, alhough it may not be capable of immediate application. n any event, due credit and deserved encouragement hould be accorded those engaged in the pursuit of tudies of this and like kind. In the present instance, owever, there is already promise of fruit from the laors of those concerned in the investigation of the subect in question, and we may look for a distinct addition o our therapeutic resources in the management of nunerous morbid states of the kidneys attended with deicient functional activity, as an outcome thereof.

In his latest communication on renal insufficiency, Koranyi[2] points out that, in the process of albuminous netabolism, the large albumin-molecule is decomposed nto numerous small molecules, and these are eliminated y the kidneys. If the permeability of the kidneys for olid molecules is diminished, the retention of the nolecules resulting from albuminous metabolism eads to increase in the osmotic pressure of the bodily luids, and this may be recognized by an increase in he reduction of the freezing-point of the blood. It as been shown that such a reduction, exceeding 0.56 C. —not neutralized by exposure to oxygen—is characteristic of renal insufficiency. For physical reasons it is to be expected that, in the presence of the molecular concentration that attends renal insufficiency, the blood yields up its water with rather greater difficulty than usual, and it has been noted that nephritics sweat less freely than healthy persons. It is also probable that they exhale less moisture with the breath.

The aqueous content of the body is almost constant in health, and the kidneys play an important part in the maintenance of this constancy. The elimination of water by the kidneys adapts itself to the difference between the ingestion of water and its excretion through other channels. The amount of urinary water is, therefore, almost independent of the amount of solid constituents of the urine. If a healthy person drink little water, the freezing-point of the urine is lower, and if, on the other hand, he drink much, the freezing-point is higher. If the diseased kidneys retain their capability of adapting themselves to the needs of the organism with respect to the aqueous content of the body they will make good the failure on the part of the skin and lungs to throw off the usual amount of water in consequence of the increased concentration of the blood and the increased osmotic pressure. The amount of urine eliminated is, therefore, increased, and this is the more so as the state of the blood leads, also, in most cases, to some degree of polydipsia.

In health, there are considerable variations in the freezing-point of the urine, but in cases of diffuse disease of the kidneys the freezing-point of the urine fluctuates within the narrow limits and approximates that of the blood. Such diseased kidneys may be unable to excrete either a highly concentrated or a highly dilute urine. In some cases the accommodative capability of the kidneys is much diminished, whereas their permeability to solid substances is fairly well maintained. Such kidneys are incapable of concentrating the urine adequately, and polyuria results, a large amount of water being required to dissolve the solid substances eliminated. If the permeability of the kidneys to solid substances is considerably diminished, then inability to secrete a dilute urine results. The osmotic pressure is increased, less water is given off by evaporation, and slight polydipsia exists. More water is retained within the body, and diminution in osmotic pressure results. Under such conditions the retention of water may be proportionate to the retention of solid molecules, so that the increase in osmotic pressure may be neutralized by the renal insufficiency.

Renal dropsy may thus be attributed to increase in osmotic pressure in association with diminished accommodative capacity on the part of the kidneys.

The increase in osmotic pressure is due to albuminous metabolism, and the uremic poisons also are derived from the albumin-molecule, but though both arise from a common source, the former is not the cause of the latter. Fatal uremia was observed in animals when the freezing-point of the blood was lowered 0.57 and 0.55 C., while in surgical cases with renal insufficiency, notwithstanding a reduction in the freezing-point of from 0.8 to 1.2 C., uremia did not occur. It thus seems probable that the uremic poison consists of large molecules that do not materially influence the freezing-point. The occurrence of uremia depends on retention of these molecules, and this is independent of the relation of the small molecules, whose retention causes increase in osmotic pressure. A new purpose is thus injected into the therapy of renal insufficiency, viz., the correction of the increase in osmotic pressure at its source, namely the limitation of albuminous metabolism. Much good may be expected from the use of diuretic and diaphoretic remedies that increase elimination of the molecular elements, rather than that of the watery elements alone, together with the observance of a suitable diet and a medicinal limitation of albuminous metabolism. Increase in osmotic pressure can be diminished by means of a diet of carbohydrates, while hunger exerts an injurious influence. In the conditions under consideration, especially in the presence of uremic vomiting and diarrhea, curare has proved a most useful adjunct to ordinary diuretic and diaphoretic measures.

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[1] Journal, March 4; Sept. 16, 1899.
[2] Berliner Klin. Woch., Sept. 4, 1899, p. 781.

Koranyi sums up tersely, as follows, the conclusions that he has reached as the result of his observations: The poison of uremia is derived from albumin. The increase in osmotic pressure in cases of renal insufficiency is due to the retention of albuminous metabolic products, and it is an important factor in the processes that lead to the development of dropsy. Therefore, in cases of renal insufficiency limitation of albuminous metabolism is desirable from the standpoint of both the uremia and the dropsy. This object may be attained by means of a suitable diet, but best by the administration of curare.

ETIOLOGY OF MALARIA.

The originality which Koch has displayed in most of his previous work is again shown in his official report[1] on his studies of malaria at Grosseto. We learn from this report that he has been working at Grosseto in Tuscany, Italy, in conjunction with Professor Trosch and Dr. Ollwig, during the past summer season. This town is notorious for the prevalence of malaria during the hot season, which induces thousands of the inhabitants to leave it during the summer. Researches in the large public hospitals, as well as in the private practice of the sanitary officer, Dr. Pizzeti, showed that prior to June 23 there were relatively a small number of fever cases, and that these were invariably relapses of infections dating back to previous summers. After this date, however, new infections occurred in such numbers that the term "epidemic" could be used. The diagnosis was based on the presence of parasites in the blood in 408 instances, confirmed by the microscope as well as the clinical history, while all suspected cases in which the parasites were not found, proved to be not malaria by the subsequent course. Of the 408 cases, 15 were of the quartan type, 202 of the tertian variety, while 181 belonged to the estivo-autumnal class. The latter, identical in its parasite with the true tropical fever, was always a severe type of disease, however, without a death—under quinin treatment.

Since the parasite has never been found except in the blood of the human patient and in the body of certain mosquitoes, Koch offers the startling conclusion that malaria is acquired only through the stinging by mosquitoes which have previously fed on the blood of other malarial patients. On this assumption he predicts that it may be possible to eradicate malaria by curing all previous fever cases before the hot season arrives. In other words, he regards the patient with malaria as a menace to the public health in the same way as he had formerly shown this to be the case with cholera. But instead of isolating the patients or disinfecting, he proposes to make them harmless by the proper administration of quinin in order to prevent continuation of the infection and relapses. His answer to the question why no fresh infections were observed prior to June 23, although both old malarial cases and mosquitoes were in existence, is based on very seductive reasoning. The records of 1899, as well as of several previous years, show that new infections began to be observed about three weeks after the highest daily temperature had reached 27 C. (80.6 F.) When this maximum is reached in the open air, the temperature does not fall below 24 to 25 C. in the interior of the houses even during the night—in Grosseto. According to Koch's previous work on the proteosoma, the parasite of birds' blood which closely resembles the malarial germ in men, this minimum temperature is required for the maturing and propagation of proteosoma in the body of the mosquito. As eight to ten days are presumably required for the development of the germ in the mosquito—we can assume the inoculation period in man to be about the same time—and the correspondence of the air temperature with the season of fresh malarial infections is appreciated.

Four varieties of mosquitoes were found, viz: a *Phlebotomus* variety, *Culex nemorosus*, *Culex pipiens* and *Anopheles maculipennis*. The two former did not contain parasites in any instance, and are presumably harmless. In forty-nine houses in which the disease had occurred, *Culex pipiens* was either found or its larvæ were detected on the adjoining grounds. In one case the insect contained sickle-shaped germs in large numbers. The *Anopheles maculipennis* was present in many of the houses, and in seven insects various stages of the germs were found. But as it was often entirely absent from infected regions, Koch does not regard it as the only dangerous mosquito, as some Italian observers have done. For therapeutic purposes Koch gave large ngle doses of quinin, but only during the interval. ne gram sufficed in tertian and quotidian forms, but e tropic variety required two grams. Usually two oses given in this manner sufficed to put an end to e attacks for the time. He advocates a continuance f larger doses at intervals of several—up to ten—days, r a longer period in order to prevent relapses. How ng the drug must be continued for this purpose he expects to learn from systematic observations to be kept p at Grosseto by Professor Gosio.

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[1] Deutsche Med. Woch., Sept. 14, 1899; JOURNAL, p. 929.

HE AMEBA CILIATA IN DISEASE, A NEW THEORY OF THE ORIGIN OF SOME OF THE ACUTE INFECTIOUS DISEASES.

In the *New York Medical Journal* for September 30 nd October 7, there appears a lengthy contribution om Dr. Henry Gereon Graham of Chicago, in which re advocated some novel theories as to the origin of me acute infectious diseases, and he builds on them n ingenious speculative structure. The ameba ciliata hich, it is said, occurs in the ordinary drinking water claimed to be a pathogenic agent of great power and nportance, because it may contain in its interior varius microbic parasites such as the typhoid bacillus, the acillus proteus vulgaris, a pathogenic spirillum capable causing dysentery, the pneumococcus of Fränkel, etc. he type of disease produced by the ameba will therere depend on the kind of parasite it happens to carry. hen thoroughly loaded down, a serious complication diseases might arise. The tissue or organ invaded so takes part in determining the kind of disease which ould result. It being the habit of the ameba to move n schools," very severe infections may arise. When enly distributed throughout the system, without conntration at one point, there results malaria or maligant edema, according to the parasite carried. While e ameba ciliata is in itself of little pathologic signifince, its importance as a morbific agent depends largely the protection afforded its contents from the action all kinds of destructive agents, and also on its power penetrate tissues and organs not directly accessible om the external world. In other words, the ameba ays a rôle similar to the mosquito in malaria. It is ggested that the spleen arrests and destroys embryonic rms of minute organisms of this dangerous class hich are commonly present in fresh water. The ocndosarc of the ameba, whence it escapes when the planation, stranger than any one heretofore proposed, amely: it is caused by the escape of the fluid in the ndosare of the ameba, whence it escapes when the neba dies. As is so frequently the case with scientific scoveries of various kinds, this has also been foreadowed in an imperfect and unconscious manner by her workers. Thus, Ziegler's description of the cellar infiltration in the lymphatic apparatus of the testine, in typhoid fever, is said to be a correct stateent of the ovules of the ameba. Osler, however, who eaks of epithelioid cells with several nuclei, probably had before him the ameba itself, in the resting stage. We are also told that some of the white blood-corpuscles and some of the pus corpuscles in urine in a number of infectious diseases and at other times are often nothing more nor less than the ovules of the ameba ciliata.

We have touched on some of the principal points in the communication. The investigation is not complete, inasmuch as the nature of the bacteria and other organisms which it is claimed the ameba harbors has not been determined according to our generally accepted methods. Indeed, we fear that deficiencies in technic and otherwise have misdirected the author's industry and led him to conclusions that may not be generally accepted as correct.

ANOTHER "NEW" CURE FOR CONSUMPTION.

Dr. Carlo Ruata, professor of materia medica and pharmacology in the University of Perugia, has, according to the Rome correspondent of the *Lancet*, a new cure for consumption. At a meeting of the Umbrian Medical Congress, Professor Ruata explained his "cure," as the correspondent says, to a large and sympathetic, if not a wholly convinced audience. Briefly stated, it consists in the graduated continuous inhalation of alcohol, creosote and chloroform. Eleven typical cases of pronounced tuberculosis were perfectly cured. Out of another series of cases, 32 in number, in 22 the progress of the disease was so arrested as to put them out of danger. The Congress expressed satisfaction at the report and, while reserving judgment, congratulated Dr. Ruata on having devised a new line of treatment, "which has only to be developed if in some respects modified, to give it what Baccelli called the rights of citizenship in clinical medicine." If we mistake not, what Dr. Ruata recommends as a new method has been used in this country for several years.

INTERNATIONAL MEDICAL BIBLIOGRAPHY.

A leading French medical journal, the *Gazette Medicale de Paris*, quotes the editorial in the Journal of August 5, on medical bibliography, admitting the justice of its statements, but protests against the inference it sees in it that the *Index Medicus* should be an American enterprise. Heretofore, such has been actually the case, but we have no national prejudice in the matter and will gladly yield the honor of its publication. The difficulty has been that American medical literature, as we have often pointed out, is little known abroad, hence a complete medical bibliography could really only be produced in this country. This difficulty still largely exists, though we trust this will not always be the case. The assumption is, therefore, somewhat justifiable, that if the publication of the *Index Medicus* is to be resumed, and we hope it will be, it will have to be a cis-Atlantic enterprise.

REGULATION OF MARRIAGE.

The Journal has already noticed the Michigan law making it a felony for any person with uncured gonorrhea or syphilis to marry. The Health Commissioner of Detroit has introduced a resolution to be voted on at the next board meeting, that it urge "all persons legally authorized to perform the marriage ceremony to require a certificate of health from a reputable physician before proceeding to perform the ceremony." One difficulty of such a regulation will be the determination as to when syphilis or gonorrhea is cured, medical opinion having, as is well known, a wide range as to this special point. If, for example, the Noeggerath theory of latent gonorrhea happens to be held by the physician, it will be difficult for him to honestly grant the desired certificate, and the question of when one is through with syphilis is one of the greatest uncertainties in medicine. Undoubtedly the law will be rather liberally interpreted, but the position of the reputable physician who certifies to a cure, in view of possible after-results, is not altogether an enviable one. The object of the law is excellent, but we see some of the difficulties of its execution even if the resolution proposed carries and the clergymen who do most of the marrying, and the reputable physicians both attempt to honestly carry out its provisions. As an experiment in a special line of sociology, it is well worth observing.

TRANSMISSIBILITY OF TUBERCULOSIS THROUGH MILK.

Considerable positive evidence exists of the danger from use of milk derived from tuberculous cows, whether the udders are involved in the disease or not. Tubercle bacilli have been found not alone in such milk, but also in butter and cheese prepared therefrom. Additional evidence of a confirmatory character is supplied by the report recently issued by the director of the Jenner Institute of Preventive Medicine[1] to the effect that of one hundred samples of milk submitted from the Hackney District, seventeen contained tubercle bacilli of virulent character, as determined by animal inoculation. The tests with regard to twenty-three other of these specimens were not satisfactory. As it is not always easy to determine or to recognize the existence of tuberculosis in cows, it is a wise precaution to boil all milk intended for consumption. When the disease is known to exist in animals, their milk should not be employed at all, and its sale should be prohibited, and, so far as possible, every effort should be made to recognize and to eradicate the disease. The danger is less insidious, though it likewise exists, with regard to the use of meat from tuberculous animals, but here the existence of the disease is likely to be obvious from the presence of tubercles, except in miliary tuberculosis, when the blood-vessels and the lymphatics may contain the bacilli. The safeguards in this connection consist, also, in thorough disinfection, by cooking, of beef intended for consumption, and suppression of the sale of all meat from tuberculous animals.

EVANGELIST D. L. MOODY ON PHYSICIANS.

Mr. Moody has the name of getting off a lot of good sense in his sermons. He believes in a practical religion; in a religion of truth and self-sacrifice; in a religion of noble aspirations and noble deeds; in a religion that elevates the individual, the community and the nation in every way that is good. During the past week one of his alleged co-workers acknowledged having endorsed the notorious Dowie, and not only this, but did not deny that he had allowed one of his children to die of diphtheria without calling in a physician. In one of his sermons, Mr. Moody took occasion to let this alleged co-worker know that the saving of souls and the healing of the body were two entirely different propositions, and among other things he said: "I do not believe that doctors are devils. The noblest profession outside of the ministry is that of medicine. Never yet in all my years of work have I called upon an able doctor, telling him of the sickness and need of some poor friendless person, that he did not at once go to the rescue, without money and without price. Some of the noblest men I ever knew have gone out as medical missionaries, devoting their lives to doing good with the skill and healing medicines the Lord has conferred upon them. And these men are called devils? God have mercy upon the man who says so—God forgive the man who holds such beliefs! God heals, and God heals through doctors and through medicines. Do not be carried away by the ravings of fanaticism. We have a new 'ism' in America about every year—beware of the 'isms!' What would I do if I fell sick? Get the best doctor in Chicago, trust to him and trust to the Lord to work through him! The doctors have done wonders as their knowledge has grown—they have reduced the dangers of death from diseases that once slew all they touched—and the doctors, if God helps them, will yet find a way to stop the ravages of other terrors!"

ALCOHOL AND LONGEVITY.

There has been going the rounds of the lay press a paragraph purporting to give the results of an inquiry made by the British Medical Association as to the longevity of total abstainers as compared with that of habitual drunkards, free and careless drinkers and the habitually temperate, understanding by the latter those who used alcohol only in moderation. The statistics given represent, it is stated, the analysis of 4234 deaths, and the longevity of the total abstainers is the lowest on the list. The item is passed around as a nut for the temperance people to crack, as an evidence of the harmlessness of alcohol and, inferentially, of the dangers of total abstinence. Appearing just at this time, after the meeting of the British Medical Association, the average reader is led to suppose that the statistics are recent and the official statement of the findings by a committee, or from other authoritative source, acting for the Association as a body. While no authority except the misleading statement "collected by the British Medical Association" is given for the figures, it appears probable that they are made up from a report presented to the British Medical Association by Dr. Isamberd Owen over ten years ago and published in the *British Medical Journal* in 1888, and that they do not fairly represent, as given in the extract, the actual statements made by him. They have been quoted in an article in the *Popular Scienc Monthly* for August, and probably from that source have gotten into the news items and editorials of the daily press. Their value as statistics in the form given is actually *nil*, but they favor certain views that badly ed statistical support and hence were made the most f by the writer in the monthly to which we referred. ike the recent finding of Professor Atwater that alco- ol is consumed to a certain extent in the organism, a ct never seriously questioned except by a few inju- cious extremists, they afford a tempting chance for eudo-scientific lucubrations. If statistics of value are ally wanted on the subject of the comparative longev- y of drinkers and abstainers, one would think that ose that have stood the business test of application to surance risks would be best consulted.

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[1] Lancet, Sept. 25, 1899, p. 840.

GIGANTISM AND TUMOR OF PINEAL GLAND.

The association of acromegalic giant-growth with tu- ors and diseases of the hypophysis is now a recognized ct. To what extent tumors of the pineal gland bear y relation to giantism is still uncertain. The num- r of observations is as yet very insignificant. The mors of the pineal gland are exceedingly rare. The se recently described by Oestreich and Slawyk[1] is erefore of much interest. It concerns a boy, 4 years d. Since the third year the development of the body as unusually rapid and there soon resulted a form of antism which, however, did not, as in acromegaly, in- lve the extremities to a predominating degree. The nis and the mammary glands were especially large. multaneously with the bodily overgrowth there oc- rred a marked psychic change: the previously lively ild became quiet and retired. Choked disc, irregular lse, a slightly spastic gait and increase in the reflexes ere also noticed. Shortly before death, marked ataxia veloped; convulsions set in, ending in sopor and death. he post-mortem showed a cystic psammosarcoma, as rge as a small apple, of the pineal gland, internal drocephalus and giant growth. The hypophysis was rmal. The authors consider it not impossible that mors of the pineal gland may lead to anomalies of owth in the same way as in the case of hypophyseal owths and diseases. They point out that simple giant- n in early life may later assume the acromegalic type. he only case in which tumor—sarcoma—of the pineal dy was associated with giantism is that described by enrot, but here there was also sarcoma of the hypoph- is, and the overgrowth was the characteristic of acro- egaly. The physiologic functions of the pineal gland e wholly unknown, and it remains to be seen whether ght shall be thrown on the physiology of this body rough observations on the results which apparently and in some relation to its destruction by morbid ocesses.

SE OF SUSPECTED RABIES WITH ISOLATION OF BACILLUS DIPHTHERIA FROM THE CENTRAL NERVOUS SYSTEM.

The importance of careful bacteriologic study of cases ore or less closely simulating rabies is well demon- rated by Head and Wilson[1], of the The University of innesota, in their thorough study of a case of the na- re expressed in the title. This case is therefore worthy more than passing notice. The history and the clin- al symptoms pointed toward the diagnosis of rabies: There was a definite history of a bite on the cheek by an unknown animal; after an incubation of two months, extreme pain and numbness in the region of the scar developed, followed by characteristic laryngeal and respiratory spasms on attempting to take liquids, the spasms being at first slight, later most pronounced, but toward the end feeble or absent; at first there was no fever, but later this became marked; the pulse was always rapid; insomnia, attacks of violent delirium with intervening periods of rationality, absence of all indications of simulation, and the fatal termination complete the clinical picture of rabies. The long period between the onset of the disease and death, namely fourteen days, was not wholly in harmony with the diagnosis of rabies, in which the death limit is generally placed at five to eight days. There were also albumin and casts in the urine—a very rare complication of rabies. The post-mortem showed only mild cerebral congestion. The bacillus of diphtheria was found in the ventricular fluids and in the medulla oblongata of the patient; the identity of the bacillus with the diphtheria bacillus appears to be complete in every detail. Emulsions of the medulla of the patient inoculated underneath the dura of rabbits gave rise after a long period of incubation to the symptoms of experimental rabies in this animal, and the same bacillus diphtheriæ was found present in the medulla of the rabbits. Subdural inoculations with 0.05 c.c. bouillon culture of the bacillus also produced a similar localization. When an emulsion of the medulla of the rabbit, inoculated with the human medulla, was mixed with diphtheria antitoxin and then injected, and when the emulsion and the antitoxin were injected separately, no abnormal symptoms appeared, but the diphtheria antitoxin had no protective effect as regards the virus of rabies. Hence it may be concluded that the virus of rabies was not present in the medulla of the rabbit, and inferentially this means that the virus was not present in the patient's medulla. Head and Wilson therefore conclude that the case in question was one of infection of the central nervous system with the diphtheria bacillus. The portal of entry was not determined. This close simulation of rabies, both clinically and experimentally, by cerebral infection with the diphtheria bacillus, is certainly extremely interesting. It is shown, in a striking manner, that the morbid phenomena produced by the cerebral infection of this organism differ profoundly from those produced in the ordinary localizations; and the difficulties of correctly diagnosing rabies are emphasized.

EPITHELIOMA AS A SEQUEL OF PSORIASIS, AND THE PROBABILITY OF ITS ARSENICAL ORIGIN.

There are recorded in medical literature a small number of cases of psoriasis treated for some time with arsenic and followed by the development of epithelioma. Hartzell[1] has recently brought together the cases illustrating this sort of an apparent pathogenesis of carcinoma. The whole number of cases is small—only eleven; yet it is too large to permit the assumption that the association of psoriasis and carcinoma is purely accidental. It deserves special notice that in a large proportion of the cases—5 per cent.—the carcinoma appeared before 40 years of age, and that in the same proportion the carcinoma appeared as primarily multiple tumors. In eight of the cases the prolonged use of arsenic is recorded. The direct influence of the arsenic is strongly suggested by the fact that in eight of the eleven cases of psoriasis followed by epithelioma some form of keratosis preceded for a longer or shorter period the appearance of the carcinomatous process; and in seven this keratosis was of the palmar and plantar variety, such as is now generally recognized as frequently caused by arsenic when taken internally for a long time. While Hulke and Butlin failed to find that workers in arsenic were especially liable to carcinoma, Geyer is stated by Hartzell to have observed that carcinoma, having its beginning in "arsenic warts" on the fingers, is frequent among the arsenic miners in Reichenstein, Russia.

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[1] Virchow's Archiv, 1899, 157, 175.

[1] Jour. of Exp. Med., 1899, iv, 451.

[1] American Jour. of Med. Sci., Sept. 1899; JOURNAL Sept. 16, ¶ 2, p. 722.

While we are not justified in building elaborate theories in regard to the pathogenesis of carcinoma from the facts here mentioned, yet it is noteworthy that the early appearance and primary multiplicity of the carcinoma accompanying psoriasis indicate some special etiologic factor. Whether this is to be sought in the arsenic administered is, of course, an open question, but there are good arguments in favor of that view. Assuming the probability that the internal administration of arsenic may lead to the growth of carcinoma does not mean that all carcinomas are due to the same cause; there are numerous facts in connection with carcinoma which indicate the multiple character of the agents which appear to play a part in its causation. Carcinoma caused by arsenic would indicate that this chemical substance so acts on the epithelial cells as to profoundly modify their biologic character. Parasites of various kinds might be able to produce substances capable of a similar action. All theory as to the parasitic origin of carcinoma need not therefore be abandoned because it seems likely that arsenic may cause carcinoma. On the whole, it would seem to be of greater promise of immediate advances in our knowledge of the etiology and prevention of carcinoma if we could begin to study this dreadful malady from the standpoint of various smaller etiologic groups than is the case at present, when the investigators have staked everything on the demonstration or the refutation of some single, broad and general theory.

Medical News.

Two deaths from hydrophobia were reported in Chicago last week.

Plans have been formulated to establish a Jewish hospital in Omaha, Neb.

The Holy Trinity hospital, Manitowoc, Wis., was dedicated September 28.

The corner-stone of the county insane asylum, Julietta, Ind., was laid October 9.

Dr. Edward E. Mackenzie, Baltimore, will leave that city to locate in California.

Prof. William L. Rodman, Philadelphia, has been elected an honorary member of the Lehigh Valley (Pa.) Medical Association.

Dr. John Madison Taylor has returned to Philadelphia from his summer home at Bar Harbor.

Dr. A. Beverly Campbell, St. Joseph, Mo., president of Central Medical College, has returned from Europe.

Dr. O. D. Hamlin, Oakland, has been elected physician to the Deaf and Dumb and Blind Institute at Berkeley, Cal.

A seaman just from Santiago died of yellow fever in Baltimore, October 8. A post-mortem was made by the city physicians.

Smallpox is reported at New Florence, Pa. There have been five cases, and the schools have been ordered closed for two weeks.

Dr. Paul O. Owsley, a graduate of the Johns Hopkins Medical School, has been appointed associate surgeon of St. Joseph's Hospital, Baltimore.

The latest news from Portugal states that the plague has made its appearance in at least one place outside of the sanitary cordon being maintained for its restriction.

Dr. Thomas G. Ashton, of the Jefferson Medical College, Philadelphia, has been elected associate professor of medicine in the Woman's Medical College of Philadelphia.

Dr. D. C. Jones, for many years resident physician and surgeon of the Soldiers' Home at Leavenworth, Kan., has been appointed surgeon of the new soldiers' home at Danville, Ill.

Dr. W. Wynn Westcott has been elected president of the Society for the Promotion of the Study and Cure of Inebriety, London, the vacancy occurring by the death of Dr. Norman Kerr.

In answer to the request of the Six Nations Indians, who have a reserve on the Grand River below Brantford, Ont., the Provincial Health Department has organized a board of health for that district.

Dr. J. P. Rottot, Dean of the Faculty of Medicine, Laval University, cedes his place as professor of clinics, to Dr. Demers, who will be replaced by Dr. Benoit. Lectures were resumed on the 4th inst.

A resolution was adopted at the last meeting of the Illinois State Board of Health, providing for the recognition of licenses to practice medicine when issued by states whose requirements are equivalent to those of Illinois.

By the will of Dr. Galvin Ellis, of the class of '46, and who died in 1883, $140,000 has been given to Harvard University. Most of this is to be devoted to the education of his descendants and to maintaining three professors at the medical school.

Before the American Society of Municipal Improvements, which closed its proceedings in Toronto on October 5, Dr. W. C. Woodward, health officer, Washington, D. C., read the report of the committee on "Disposition of Garbage and Street Cleaning."

Dr. Bryce has been investigating an outbreak of typhoid fever at Campbellford, Ont., and finds that the cause is traceable to polluted wells. His department will recommend the passing of a by-law for the regulation of the waterworks system of the town.

Dr. Alvah H. Doty, health officer of New York, sailed October 10 to visit the principal emigrant embarkation ports in Europe, for the purpose of obtaining a more concerted action on the part of the foreign auorities preventing the departure for this country of fected persons.

The death of a surgeon, Marchand, is thus lamented *L'Opinion Med.*, August 26: "He was if not one of e greatest, yet one of the stoutest of surgeons. His eath will not cause so many tears to be shed as did his erations. He was *septique* through and through."

Owing to excessive pressure from steam placed in a ramic sterilizer at the laboratory of hygiene of the niversity of Pennsylvania, Philadelphia, a severe explosion occurred on October 7, of such a character as to verely wound four workmen employed in the lab- atory.

The Illinois State Board of Health has received lvices that fifteen cases of smallpox exist in Carbon- le. From unofficial sources the list is increased to irty. Ten cases have been reported from Mankanda. t Downs, where the diagnosis of thirty cases was dis- ited, there are six cases.

The trustees of the University of Pennsylvania ve elected John G. Clark, associate instructor in necology in the Johns Hopkins Hospital, to the chair gynecology in the University of Pennsylvania Med- al School, of which he was a graduate in the class of 391. The appointment carries with it a position in e Faculty.

According to the Montevideo correspondent of the *ndon Times,* the discovery has been made that a ndicate exists in that city which makes a practice of suring the lives of poor people and afterward killing em for the insurance money. It is said that the syn- cate has policies covering the sum of $150,000, and at at least one American company has been affected.

Philadelphia's city fathers, having granted the iblic request that an election be held for the purpose deciding whether or not pure water is needed, have cided to place on the ballot certain words which might t be the best for pure water. The outside of the ballot ill have the words, "Increase the debt;" the other llot against pure water will read "No increase of ebt."

The Health Department of New York City has plied for an appropriation of $1,135,924 for the ex- nses of the department for the year 1900. This is an crease of almost $24,000 on the appropriation for the esent year. It is stated that the increased amount for the improvement of the service in the Borough Brooklyn, where the inspection system is regarded inadequate.

The case of the Illinois State Board of Health vs. e Independent Medical College has been appealed om the Circuit Court of Cook County and will be ard by the Supreme Court next week. As the college ade no defense, the Circuit Court rendered a judg- ent of ouster. Anticipating adverse action, the In- ependent Medical College has changed its name to e Metropolitan Medical College.

Dr. C. M. Karst of St. Petersburg, Russia, has be- eathed to the Board of Guardians of the Industrial omes, 40,000 roubles ($20,000) on the following con- tions: that during his (testator's) life the interest of e money all be paid to him annually, and that after s death the money shall be used for the purpose of ilding and maintaining a home for homeless children, e home to bear his name.

Dr. W. Frank Ross, Champaign, Ill., who was cited appear before the Illinois State Board of Health to show cause why his license to practice medicine should not be revoked, has secured an injunction against the Board pending a decision by the Supreme Court. The principal charges are as follows: Running a fraudulent institution, selling a diploma and seeking to obtain money by fraudulent representations.

The arrangements made by the Chicago Health Department for prompt attention to emergency cases during the Chicago Day festivities were highly creditable to that Department; under the supervision of Dr. C. C. Hunt, three emergency hospitals were established along the line of march of the parade. Police ambulances were in accessible places and promptly responded to all calls, of which there were about fifty.

The sum of $50,000 has recently been given to the University of Pennsylvania, the object of which will be toward defraying part of the cost of the new dormitories now in the course of construction. The name of the donor has been withheld for the present. The property at Thirty-fourth and Locust streets has been acquired by the trustees, and on this site the new laboratory of medicine and the new gymnasium will be built.

A special committee of the Illinois State Board of Health, appointed to investigate the advisability of establishing a state institution for the care of consumptives, has made its report to that body and urges that an appropriation of $200,000 be granted by the legislature for the establishment of a sanatorium. Action has been deferred until the next meeting of the Board. It is stated that the project has the approval of the Governor.

Prof. Lewellys F. Barker, associate professor of pathology, and Mr. J. M. Flint, of Johns Hopkins University, returned October 2, after a seven months' absence. They left Baltimore last March, in company with Prof. Simon Flexner and others, to study in the Philippines, as noted in the Journal. After spending some months in Manila and vicinity they visited Hongkong, China, and Bombay and Paona, India, where they made a study of the bubonic plague in all its phases.

Rev. H. A. Slaughter, two months ago a Baptist preacher in St. Joseph, Mo., is now president of the National School (Medical) of "Neropathy." His credentials represent a six weeks' course under the "celebrated magnetic healer," Weltmer, of Missouri. The course in neropathy covers from two to four weeks. Instruction is given during the day, in the evening, or by mail, for $100. A diploma is given, and according to the laws of Missouri, is good and valid. The name of the school is new, the branches taught are unknown, but the term "neropathy" seems not inappropriate for irregulars.

The first five cases of the plague at Oporto occurred among Spanish resident dock hands, who were evidently infected while handling germ-laden merchandise. This is a discouraging feature in the case, as, although the incubation period in man is about ten days, there seems to be scarcely a limit to the vitality of germs lurking in clothing and merchandise. The Paris dailies state that Dr. Salambeni was injured in the knee by a stone thrown by the populace at the little party of medical men on their way to hold the autopsy of a case. Dr. Hauser writes from Madrid, to the *Deutsche Medicinsche Wochenschrift,* that the Yersin serum has not proved effectual.

The Milwaukee (Wis.) Medical College opened its new term October 3, with an enrollment of 200.—The opening exercises of the Woman's Medical College, Baltimore, were held October 2, and those of the medical department of the University of Tennessee, Nashville, the same date.—The Woman's Medical College, Philadelphia, opened September 26.—The Medical Department of Toronto University opened for the session on Monday evening, the 2d inst. Dr. Primrose delivered the opening lecture, on "The Life of John Hunter, The Father of Surgery." At Trinity Medical College on the afternoon of the 3d inst., Professor Clark, D.C.L. of Trinity University delivered the opening lecture, taking for his subject, "The Alcoholic and Tobacco Habits in their Effects on Student and Professional Life."

Correspondence.

Canada.

(From Our Regular Correspondent.)

Toronto, Oct. 7, 1899.

ONTARIO AND DIPHTHERIA.

The Provincial Board of Health has issued a circular to the chairmen and members of the local boards of health throughout the province, calling attention to the still notable prevalence of diphtheria in Ontario, as instanced by the following figures: in 1891, there were 952 deaths from this disease, while in 1898 there were 634. In order to show the beneficial results that have accrued from the employment of antitoxin in this, since its introduction, the circular tabulates figures taken from the annual reports for 1898, of the Metropolitan Asylums Board Hospitals of London, England; and also evidences by age, the notable falling off in the mortality statistics from the first to the fifth year. After this citation, the local boards of health throughout the province are called on to put forth every effort to obtain the earliest information possible in regard to existing cases of diphtheria, and if necessary to supply the serum to those who are too poor to purchase it for themselves. "The influence of antitoxin in the occurrence and course of diphtheritic paralysis," is pointed out; and the necessity emphasized for the earliest possible administration of the serum, as the earlier it is given the less likely the incidence of paralysis. The consensus of opinion in Ontario is that when the antitoxin is given at the very onset of the disease, there is not the tendency to paralysis as when given later on, and in the first instance, the paralysis nearly always remains mild. Copies of this circular have been sent to every practitioner in Ontario; and the clearing of the decks for action in a determined onslaught on this disease is certainly to be commended on the part of the provincial secretary of the Board of Health, and it will be interesting to watch for the results in his next annual report.

A CREMATORY FOR WINNIPEG.

Dr. M. S. Inglis, M. H. O., is agitating for a by-law to provide for the construction and maintenance of a city crematory. Under the present arrangements, the refuse of the city is gathered together in the western confines of the city, in a "mountain of filth," whence its foul odors are disseminated broadcast, at times even reaching to the General Hospital. Annually this pile increases in size to the extent and by the addition of 30,000 tons of garbage, which condition of affairs has been going on for the last fifteen years. The health officer describes the condition as extremely unsanitary and expensive, and it does not ultimately dispose of the garbage at all. Under the existing laws the city has no right to create a nuisance any more than a private citizen has. The present system costs the city $25,000 annually, whereas it is estimated that cremation would reduce that materially. Although a by-law for this purpose was submitted to the people and voted on at the municipal elections in December last, it did not meet with success, no doubt owing to the fact that other by-laws were coupled with it. Dr. Inglis asks that a separate and distinct by-law for this special purpose be submitted to the people at the next municipal elections.

JUBILEE HOSPITAL, WINNIPEG.

There was a special meeting of the Board of Directors of the Winnipeg General Hospital, September 27, when it was decided, on account of the increased work, that an assistant woman superintendent should be appointed. Miss C. Thompson, a graduate of Johns Hopkins, received the appointment for one year, at the end of which time one of the graduates of the Winnipeg Training Hospital will be substituted. The new jubilee addition to the Hospital is now ready for the reception of patients; and on October 5, the building was thrown open for inspection by the general public. For surgical cases, the intermediate wards are now ready; and the daily rate for patients in these will be $1, payable in advance. Patients in these wards may be attended by any physician they may engage, who is duly qualified to practice in Manitoba. No patients will be received in these wards unless they are to be attended by their own physicians and for his fees they must be responsible.

NEW MATERNITY HOSPITAL FOR MONTREAL.

Lord Strathcona has contributed $10,000 for this undertaking. The facilities for studying practical obstetrics by the students of McGill, and the training of nurses, have heretofore been somewhat cramped by the limited opportunities afforded by the present maternity. Mrs. W. R. Miller, president of the hospital, has been working assiduously in the direction of the construction of a new and more modernized building, and has thus far been liberally rewarded by Lord Strathcona's handsome gift. Heretofore the nurses of the Royal Victoria and General Hospitals, in order to perfect themselves in this important work, had to finish at the Sloane Maternity in New York; but as soon as the new maternity is erected, better clinical instruction will be afforded both to the students of McGill and the nurses in training at the two aforesaid hospitals. The whole institution will be thoroughly reorganized, and in the governing body, McGill and the Royal Victoria and General Hospitals will have equal representation.

CONSUMPTION SANATORIUM FOR TORONTO.

Several prominent medical men of Toronto, who have for the past two years been interesting themselves in the establishing of a home for indigent patients afflicted with tuberculosis, are about to have their efforts become successful. A fresh start and renewed interest was manifested when about twenty of the leading physicians personally subscribed funds toward the completion of the enterprise. Several philanthropic citizens were also appealed to, and their responses have been satisfactory. At first the institution will be on a limited scale, but will have a complete staff of consulting and visiting physicians. It is expected that before another month a suitable building will be purchased, and the patients will be admitted before the onset of severe weather. The provisional trustees include Mr. I. H. Cameron, Dr. L. M. Sweetnam and Dr. A. Jukes Johnson.

Book Notices.

Interstitial Gingivitis or So-Called Pyorrhea Alveolaris. By Eugene S. Talbot, M.D., D.D.S. Philadelphia: S. S. White Dental Mfg. Co. 1899.

Pyorrhea Alveolaris. By John Fitzgerald, L.D.S. London, Eng.: The Medical Publishing Co., Ltd. 1899.

These two works are devoted to a subject which has attracted, and deservedly so, considerable attention from both the medical and dental professions. Until the appearance of the pres-

works, it must be admitted that the disease, since its first
scription by Dr. J. N. Riggs, Hartford, Conn., has remained
a state of chaos as regards its etiology, pathology and treat-
nt. It has been charged to the influence of civilization, but
as old as man, nay as old as his pliocene precursors. The two
rks under consideration agree in many respects, especially
at the nomenclature of the disease—pyorrhea alveolaris—is
pecially unfortunate, since the term can be appropriately
plied only to the later stages of the disorder. The work of
lbot is by far the more comprehensive and thorough, and
es an excellent summary of the literature of the subject.
ginning with the histology, pathology, and clinical history,
points out the various influences of the varied etiologic
tors. It is shown that, contrary to the opinions of Galippe
d others, the disease has no specific bacteriology, the bacteria
und being principally—so far as pathogenic influence is
ncerned—those of pus. Dr. Talbot differs from Dr. Fitz-
rald as to the influence of uric acid in the production of this
order. He showed that the constitutional conditions—under-
ng the uric acid state and of which it is a barometer, so to
eak—are expressions of general nutritional disturbances
ich act as a predisposing factor and not as the exciting one
imed by Pierce and others. The pathology in Talbot's
rk, and his discussion of etiology and treatment, are far
re thorough than those in Fitzgerald's. From a medical
ndpoint, both books are to be recommended, especially as
subject has important relations to digestion, to systemic
soning and to the constitutional neuroses. Talbot's book is
ll illustrated, and of the two it is the better suited for refer-
e.

RGICAL ANATOMY. A Treatise on Human Anatomy, in its
Application to the Practice of Medicine and Surgery. By
John B. Deaver, M.D., Surgeon-in-Chief to the German Hos-
pital, Philadelphia. In Three Volumes, Illustrated by About
400 Plates, nearly all Drawn for this Work from Original
Dissections. Royal Octavo, One-half Morocco, pp. 1632.
Price $8. Philadelphia: P. Blakiston's Son & Co. 1899.
Vol. I. Devoted to Upper Extremity, Back of Neck, Shoulder,
Trunk, Cranium, Scalp, Face.

The appearance of this first volume of an extensive treatise
l be welcomed by all students of the intricate branch of
dicines which is here treated. That this work has been twelve
rs in preparation indicates that the author has not under-
en the task of presenting the work without sufficient founda-
n and this is also an evidence of its practical value. The
k is devoted to surgical anatomy in its strict application,
l therefore the treatment of injuries due to trauma receives
attention, save that the methods employed in performing
putation, incision, stretching of the nerves and ligature of
od-vessels are mentioned. Its principal value will be derived
the student of anatomy who wishes to have presented to the
nd's eye the preservation of form and the relationship of the
uctures which go to form the human body. Few books
lished do this as well as the work under consideration, and
fact that it is replete with illustrations drawn from the
ginal is a credit to the author and a benefit to the profession.
ne of the plates can not be improved on, save that it may
admitted that the production in colors might seem a trifle
ier in presenting the relationship of the more minute de-
ls. In order to show its thoroughness, it is only necessary
mention that no less than twelve full-page plates are repro-
ced in order to accurately portray the surgical anatomy of
hand, and it is doubtful whether any better description
sts in any work in the English language. Having presented
correct picture of how a proper dissection should look, it
pels, almost at once, the vague idea which one might have
ained by an improper dissection. If one should select the
t plates among such a goodly number, as being of exceptional
roduction, Plates xx, cxxvi, cxxxiii, cxxxiv, and cxlvi, may
mentioned.

The author states in his preface that his original purpose was to furnish students a surgical anatomy, but he has gone farther, and given us a work that will be just as much welcomed by the general practitioner and surgeon as by the student. No work, no matter how well illustrated, can take the place of the cadaver as a method of studying anatomy, yet this book comes very nearly doing this. The index is voluminous, covering thirty-two pages, and will be of greatest value to the student. General considerations under the head of "Amputation" need revision. The book is admirably printed, on good paper, in clear type, and is a compliment to the publishers and a credit to the author.

THE HYGIENE OF TRANSMITTABLE DISEASES: Their Causation Modes of Dissemination, and the Methods of Prevention. By A. C. Abbott, M. D., Professor of Hygiene and Bacteriology and Director of the Laboratory of Hygiene, University of Pennsylvania. Illustrated. Philadelphia: W. B. Saunders. 1899.

This volume mainly includes, as the author states in his preface, the subject-matter of a portion of his lectures on general hygiene, at the University of Pennsylvania. As the result of practical teaching experience, therefore, they have a value, and the book, it may be said, on the whole, meets expectations. It is well and clearly written, and contains a large amount of valuable information for the student, though there is not so much in it that ought to be new to the well-qualified physician. Like most other works that deal with vital statistics, it is occasionally a little misleading; the table on page 35, for example, would lead one to believe that the foreign-born were largely immune from scarlet fever, diphtheria, measles, whooping-cough, and other children's diseases, whereas it is really the scarcity of foreign-born infants that accounts for the figures. The author notices the fallacies of statistics in general, but not in particulars like the above, as would, we think, have been advisable.

The section on the special transmittable diseases is generally excellent and reliable. Dr. Abbott is positive on some points where opinions differ; for example, he unequivocally advocates state regulation of prostitution as an efficient preventive of venereal disease, and he denies, perhaps too unqualifiedly, the possibility of air transmission of typhoid fever. There are some that will probably disagree with him on these, and, it may be, some few other points. The inclusion of malaria among the transmissible diseases seems odd at first sight, though in view of recent discoveries and theories it is possibly correct.

The work will be of value, not only to the student, but also to the non-medical man interested in sanitary matters.

WHAT A YOUNG HUSBAND OUGHT TO KNOW. By Sylvanus Stall, D.D. Price $1.00. Philadelphia: The Vir Publishing Company. Toronto: William Briggs.

The author has treated this very difficult, and for this reason much neglected, subject from a high moral view-point. In the great lottery of marriage many a prize is turned into a blank because the recipient has neither the knowledge necessary to take care, nor does he appreciate the value, of the prize he has won. If every young man would read this book before he married, and live up to its teachings, his married life would be happier than it would otherwise have been. We say this in spite of the fact that we think the author has not gone to the best authorities for the information he imparts. We can not help but think too, that if much that the author has quoted from others had been omitted, his book would have been more worthy of commendation. His own part of the work is deserving of the highest praise.

HANDY BOOK OF MEDICAL PROGRESS. A Lexicon of the Recent Advances in Medical Science. Charles Warrenne Allen, M.D., and Jacob Sobel, A.B., M.D. New York: William Wood & Co. 1899.

This little book might well be described as an encyclopedic lexicon of modern medical terms, including all branches of medicine, words and terms not found in any but the most recent dictionaries. In current publications many terms and neologisms are employed long before they find their way into textbooks, encyclopedias and dictionaries. An attempt is made to here give a list of the newer proprietaries, but this far from complete. The supposed formulæ are given in many instances. Much valuable information is given tnat is not easily found elsewhere, such as Schleich's formulæ, antivenin, etc.

THE MINERAL WATERS OF THE UNITED STATES AND THEIR THERAPEUTIC USES. With an Account of the Various Mineral Spring Localities, Their Advantages as Health Resorts, Means of Access, etc., to which is added an appendix on potable waters. By JAMES K CROOK, A.M., M.D. New York and Philadelphia: Lea Brothers & Co. 1899.

The author states in his preface that a complete and discriminating work on the mineral waters of the United States has been distinctly needed. The truth of this will hardly be questioned by medical men. The treatises heretofore available have become out of date and were never complete. In preparing the present volume, he states that he has carefully examined all available literature, has addressed letters of inquiry to every spring resort accessible by the postoffice, and has corresponded not only with proprictors and agents, but with local physicians, army and navy officers and others who could give him the desired information, besides making personal visits to many important localities. As a result he has produced a handsome volume of nearly 600 pages, describing all the actually utilized springs of the country, and giving analyses of the waters and stating their medical uses. If anything in the book calls for criticism, it is the occasional use of descriptive accounts that appear as if possibly taken from the prospectuses of the projectors. An excellent index completes the volume.

Deaths and Obituaries.

THOMAS GEORGE CUSACK, M.D., N. Y. University, 1880, died at his home in Orange, N. J., September 20, aged 44 years.

FRANCIS B. SMITH, M.D., N. Y. University, 1850, died at Stowe, Vt., September 23, aged 76 years.

JOSEPH H. SMITH, M.D., Albany, N. Y., 1846, died at Plattsburg, N. Y., October 5, aged 78 years. He was once physician at Sing Sing prison and later at Dannemora.

JOHN T. GRIMES, M.D., died near Williamsport, Md., October 7, aged 70, of heart disease. He was a graduate of the Baltimore Medical College.

EDWARD BASIL SIMPSON, M.D., a graduate of the University of Maryland, and a bachelor, killed himself at Harney, Md., October 7, aged 60 years. He received his M.D. degree in 1862 and had practiced at Harney thirty-five years.

SHELDON SMITH SCOVILLE, M.D., Cincinnati College of Medicine, 1838, died at Lebanon, Ohio, September 22, aged 76 years. He held various local offices and was health officer of Lebanon for many years. He served in the Civil War as an assistant-surgeon of the Federal army, until ill health forced him to resign.

A. L. RANSONE, M.D., died at Hyattstown, Md., September 30, of cirrhosis of the liver. He was born in Norfolk, Va., Dec. 24, 1847, but had been a resident of Maryland for thirty years. He was attached to Mahone's command, C. S. A. during the Civil War, being in the cavalry service, and practiced in Baltimore for several years just after the war.

JAMES F. SMILEY, M.D., University of Michigan, 1862, died at his home in Marshall, Mich., September 29, aged 64 years. ....James R. Smyth, M.D., New York City, September 30, aged 47 years....Clifton G. Smith, M.D., University of Buffalo, 1887, died at Akron, Ohio, October 2, aged 35 years.

DEATHS ABROAD.

Dr. Addickes of Hanover, Germany, is dead from injuries by collision with an electric car, while bicycling....Joseph White, D.C.S., F.R.C.S., Eastbourne, England, died September 24. He was an ex-president of the British Medical Association.

Miscellany.

Michigan State Board of Medical Examiners.—The governor has appointed the following to serve on this board: Beverly D. Harrison, Sault Ste. Marie; Samuel Bell, Detroit; B. J. Whelan, Hillsdale; Austin W. Alvord, Battle Creek.

Health in Michigan.—Reports to the State Board of Health, Lansing, show the diseases which caused most sickness in Michigan, during the four weeks ending September 30, as follows: Diarrhea, rheumatism, neuralgia, bronchitis, dysentery, tonsillitis, cholera morbus, cholera infantum, pulmonary consumption, intermittent fever, typhoid fever. Reports from all sources show consumption reported at 5, typhoid fever and scarlet fever at 22, and diphtheria at 7 places more; whooping cough at 14 and measles at 27 places less; cerebrospinal meningitis at the same number and smallpox at 1 place more, when compared with the preceding month.

Air, Gases and Radiographs.—Dr. Bade has established that when the stomach or intestines are distended with air or gases they cast no shadow in a radiograph, and thus stand out with great distinctness. Radiographs of a fetus are given in the *Deutsche Medicinische Wochenschrift*, September 21, in which these organs infiltrated with air, are absolutely white in contrast to the prevailing shadows of the rest of the body. His experiments on man, to generate gases in the stomach, were unsuccessful in some cases on account of the vomiting induced, but he succeeded in obtaining a fairly good radiograph of his own organs in this way after taking tartaric acid and sodium bicarbonate to generate gas.

Physicians' Directory.—A corps of men are now at work throughout the country procuring information for the new edition of Polk's Medical and Surgical Register of the United States and Canada. This publication is now so firmly established, so widely known and universally used as to scarcely call for any comment, as it has become standard in the profession and is a book of daily reference. It is a complete directory of the medical profession of North America and all that pertains thereto. To issue such a work is a formidable undertaking, involving a vast amount of labor, but the facilities of the Messrs. Polk & Co. are exceptional. We predict for them still greater success in the coming edition, to be issued as early in 1900 as possible, and we cheerfully commend Polk's Register to the profession as an invaluable work of reference. Each succeeding issue has been an improvement on its predecessor, and we are promised that the next number shall be as near perfect as such a book can be made.

Venereal Diseases in Various Armies.—The only statistics available at the Brussels Conference, that were at all reliable, were those treating of venereal diseases in the army; the number of men admitted to the hospitals for this cause. According to *Sem. Med.*, September 30, Great Britain heads the list, with 194.6 per 1000 in England and 522.3 in India (1897); Italy, 90 per 1000; the Netherlands, 100 per 1000 in 1896 and 44.7 in 1897, including 6.5 as the proportion of syphilis; Russia, 36.1 per 1000, including 12 per 1000 cases of syphilis (1895); France, 51.6 per 1000, including 8.9 syphilis, in 1895, gradually decreasing to 37.5, including 7.8 per 1000 syphilis in 1895; Germany, 29.9 per 1000 in 1894, 25.5 in 1895-6. The peculiar benignity of syphilitic infection in China was mentioned by Blanc of Shanghai: "by the end of six months it is apparently all finished.' The only severe cases he encounters are those contracted in Europe or America.

Philippine Notes.—Prof. Lewellys F. Barker of the Johns Hopkins Medical School gives some interesting details of his two month's experience in the Philippines, in study of the diseases prevalent there. The temperature is not so high as ne might suppose, but there is such a continued elevation of emperature and such a high degree of humidity that life is endered very unpleasant. The nights are warm and it is ifficult to sleep. Light woolen garments are best, affording rotection against changes of temperature. It is easy to adise the boiling of all drinking water, but it is difficult to arry it out, owing to the inconvenience. The organization of he hospital at Manila was a surprise. One would scarcely elieve that hospitals could be so perfectly maintained 7000 or 000 miles from home. Great credit is due Col. Woodhull, urgeon-in-chief for the Philippines. There are two large ospitals in Manila, the first and second reserve. The women urses are a great success. Their work is better than that f the hospital corps. It is important to continue the study f tropical diseases. It would be advisable for the government o send out for this purpose well-trained army men. The two ost fatal diseases among the troops are typhoid fever and ysentery. A disturbing but not fatal malady is the skin disase called "dhobi itch." Dhobi means washerman. It is hought that the disease is caused by the imperfect washing f clothes, as the dhobis do not boil them. It is also spread by owels, etc. If an American going to the East will take proper recautions, there is no reason why he should not keep well. r. Barker went out to the Philippines opposed to expansion, ut came back believing that their acquisition is for the best. he chances for development of trade are enormous. There is ot much chance of the Philipinos becoming Americanized and t will be a long time before they can govern themselves.

Conclusions of Brussels Prophylactic Conference.—The hree most important resolutions adopted by the Conference re: 1. Governments are urged to do everything in their ower for the absolute suppression of prostitution among girls ho have not attained their majority, a resolution inspired by he fact, already stated in the JOURNAL, p. 929, that the largest hare in the propagation of syphilis was found to be directly raceable to prostitutes under 20 years of age. This conclusion atisfies both the regulationists and the abolitionists. While t demands active intervention for a sanitary end, it does not n any way conflict with the principles of morality and equity. . The second resolution adopted uniform bases for the collecion of statistics in regard to venereal diseases in different ountries. 3. The creation of complete and compulsory courses n venereology in medical colleges. The *Semaine Medicale*, eviewing the work of the Conference as a whole, observes that t was "pre-eminently critical." "It completely upset cherished raditions in respect to the regulation of prostitution as now racticed, which, with a few expeditious measures—rather olice than medical—has been imposing the sweet illusion of reat things accomplished. All the sanitary problems in regard to prostitution are thus presented in a new form, and emand for their solution solid bases which are still almost ntirely lacking, especially in the line of statistics and of the elations between this branch of public prophylaxis and economic and social questions, morality and the law. Long and areful studies are required before any special measure can be laborated, and they must vary with varying conditions and he degree of civilization. Any single prophylactic system is herefore irrational and impracticable." The Conference also assed resolutions in favor of founding a society for sanitary nd moral prophylaxis, to publish a quarterly bulletin, with eadquarters at Brussels and power to organize congresses. t was also decided that a second conference should be held at Brussels in 1902.

Scientific Instruments.—The United States circuit court ecently had the question before it, in an application by the Massachusetts General Hospital for a review of a decision of the board of general appraisers, whether ordinary surgical instruments are "scientific instruments" within the meaning of a statute admitting free of duty philosophic and scientific instruments, imported for the use of institutions organized for educational and scientific purposes. The answer, it declares, is not free from difficulty. The evidence in the case showed that the surgical instruments in question were imported in good faith, for the use of the above-named hospital in its clinics and training school for nurses; that they were specially designed and adapted for use in surgery, and were such instruments as were ordinarily used by surgeons in the practice of their profession. The court holds such instruments to be scientific instruments, within the meaning of such a law as stated. It holds that scientific instruments may be said to be such as are specially designed for use, and principally employed, in any branch of science. Such use may be for the purpose of observation, experiment, or instruction, or it may be a use in connection with the professional practice of a particular science. The use of a surgical instrument by surgeons in the practice of their profession is as much a strictly scientific use as when employed in clinics and training schools, or for the purpose of experiment. All these uses are equally scientific, because they specially concern a particular branch of science. The use of philosophic instruments, from the nature of the subject to which they relate, may be said to be limited to observations, experiments, and discoveries, while the use of scientific instruments, from the nature of the subject to which they relate, may extend to other purposes. Under the doctrine of "principal use," it may be said that an instrument is not to be classed as scientific, but mechanical, when its principal use is in the trades or arts, because such use is not scientific. But to hold that an instrument specially designed and adapted for use in medical science is to be classed as scientific when principally used in surgical operations in clinics and training-schools, and is not to be so classed when commonly used by surgeons in the same operations in the practice of their profession, the court insists, does not commend itself to reason or to common sense.

"Christian Scientists" Split Asunder.—According to the *Philadelphia Press*, a determined schism has made its appearance in the church of the "Christian Scientists," with headquarters in Washington, in which city its legal title is the "Universal Church." The name of the new association, which organized this new church, is "The Reform Christian Science Church Association." The latter association has issued an appeal through its clerk, John H. Turner, for good workers in all parts of the world; in the United States it asks for one competent person in each Congressional district to organize field workers. The leader of the "Christian Science Protestants" is Oliver G. Sabin, editor of the *News Letter*, a "Christian Science" organ. It is announced that beginning with October 2, Mr. Sabin and other competent lecturers will give class instruction to all desiring to be taught "Christian Science" and its mode of healing, for the first ten days in every month except July and August. Mr. Sabin also proposes to publish in his paper a series of articles on "What is Christian Science and How to Heal the Sick." The preamble to the articles of incorporation announce the loyal adherence of the subscribers to the Bible and to "the scientific rule of metaphysical healing through His (God's) selected messenger, Mary Baker Eddy, and which she has given to the world in a book named 'Science and Health, with Key to the Scriptures.' But that the charging of $3 for 'Science and Health' when it can be printed and sold for 50 cents per copy is wrong in principle, and in effect shuts the door of this beautiful truth upon the poor by thus placing a prohibitive price upon it." The preamble also states that the compensation for class instruction should be $10, where the "religious trust" charges $100. In the matter of healing, it says $1 ought not to be an excessive charge for treatment. The hope is expressed that Mrs. Eddy will consent to selling the cheaper "Science and Health" for 50 cents, "but if she does not, the truth will be given." The dilemma which the new sect presents to Mrs. Eddy is this: If—as the reformers say they believe as earnestly as the trust—knowledge was given her by God for the benefit of mankind, she has no moral right to chain it under the law of copyright; if, on the other hand, there is no inspiration in it, "then of course she legally and morally has the right to make money out of it; but she has no right to pose this knowledge before the world as the second coming of the Christ, Truth." It is said that Mrs. Eddy has taught over 4000 students, and that less than 300 of these are loyal to the "Religious Trust Church," and further that Mrs. Eddy has guided herself into wealth by the sale of her book.

Gelatin in Hemorrhagic Purpura.—Costinesco of Bucharest has been the first to extend to hemorrhagic purpura the gelatin treatment that has proved successful in aneurysms. He concludes from his success in seven cases treated with one or two injections of 2 per cent. gelatinised serum (40 to 200 c.c.) that its hemostatic effect in this affection is reliable and definite. No rise in the temperature follows, but the injections are slightly painful, absorption not being complete for one to three hours. In his communication to *Arch. Orientales*, September, he attributes the vasodilatation to toxemia and the hemorrhagic tendency to the fact that the blood-clot is less retractile than normal. This tendency is neutralized by the gelatin, which he has also found successful in the treatment of simple and rebellious epistaxis, serious dysenteriform enteritis, etc.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from September 14 to and including Sept. 28, 1899:

James Albert Alexander, acting asst.-surgeon, from Washington, D. C., to duty at Land's End, Port Royal, S. C.

William J. Boyd, acting asst.-surgeon, from Fort Leavenworth, Kan., to duty at Fort Riley, Kan.

Alfred E. Bradley, major and surgeon, Vols., previous orders honorably discharging him from volunteer service revoked; relieved from Fort Yellowstone, Wyo., and assigned temporarily as chief surgeon of the Department of Dakota and attending surgeon, St. Paul, Minn.

Ira C. Brown, major and surgeon, Vols., sick leave of absence extended.

Julian M. Cabell, major and surgeon, Vols., (captain U. S. A., retired) honorably discharged from volunteer service on tender of his resignation, to take effect Oct. 1, 1899.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., from San Juan, Porto Rico to duty at Madison Barracks, N. Y.

Amasa S. Condon, acting asst.-surgeon, from Fort Bayard, N. M., to Ogden, Utah, for annulment of contract.

Charles F. Craig, acting asst.-surgeon, from temporary duty at Fort Hamilton, N. Y., to the Department of California.

Louis W. Crampton, major and surgeon U. S. A., from Fort McHenry, Md., to the Department of California.

Thomas E. Evins, major and surgeon, Vols., previous orders amended so as to assign Thomas E. Evins, instead of Thomas E. Evans, as surgeon 49th Inf. Vols.

Charles L. Furbush, captain and asst.-surgeon 44th Inf. Vols., from New York City to join his regiment at Fort Leavenworth, Kan.

Louis L. Gilman, acting asst.-surgeon, from Fort Hancock, N. J., to duty with the army transport service.

Stephen M. Gonzalez, acting ass.-surgeon, from Pensacola, Fla., to New York City for duty in the Department of the East, on the conclusion of which he will proceed to Porto Rico for duty.

Evan P. Howell, acting asst.-surgeon, from Land's End, Port Royal, S. C., to the general hospital at San Francisco, Cal.

Frank R. Keefer, captain and asst.-surgeon U. S. A., now in the Philippines, is relieved from further station and duty at Fort Walla-Walla, Wash.

J. Stebbins King, acting asst.-surgeon, from Fort Hamilton, N. Y., to Decatur, Ill., for annulment of contract.

Thomas J. Kirkpatrick, Jr., lieutenant and asst.-surgeon U. S. A., now on sick leave at San Francisco, Cal., is relieved from duty in the Department of the Pacific and assigned to Fort Myer, Va.

Homer C. Moses, acting asst.-surgeon, previous orders amended so as to place him on temporary duty at Fort Snelling, Minn., after which he will accompany the 45th Inf. Vols., to the Philippine Islands.

George J. Newgarden, captain and asst.-surgeon, U. S. A., previous orders revoked; he is relieved from duty at Fort Adams, R. I., and assigned to Fort McHenry, Md.

James E. Pilcher, captain and asst.-surgeon, to proceed to his home to await orders resultant from his examination by an army retiring board.

Adrian S. Polhemus, captain and asst.-surgeon, U. S. A., leave of absence extended.

Elias H. Porter, acting asst.-surgeon, from awaiting orders in New York City to duty at Fort Hancock, N. J.

George D. Romsay, acting asst.-surgeon, from Fort Hamilton, N. Y., to duty at Fort Adams, R. I.

Edward A. Romig, captain and asst.-surgeon, 40th Inf. Vols., leave of absence granted.

Lewis J. Strueber, lieutenant and asst. surgeon Vols., appointed August 17, 1899, and assigned to the 42d Inf. Vols., at Fort Niagara, N. Y.

Blair D. Taylor, major and surgeon, U. S. A., relieved from further duty at Fort McPherson, Ga., and assigned to the Department of California.

Henry D. Thomason, major and surgeon, Vols., from New York City to the Department of California.

Henry R. Tilton, lieutenant-colonel and deputy surgeon-general, U. S. A., leave of absence granted.

Wilfrid Turnbull, major and surgeon, Vols., from New York City to the Department of California.

William C. Warmsley, appointed lieutenant and asst.-surgeon, Vols., Sept. 9, 1899, and assigned to the 49th Inf. Vol., at Jefferson Barracks, Mo.

Dudley W. Welch, lieutenant and asst.-surgeon, 43d Inf. Vols., from New York City to join his regiment at Fort Ethan Allen, Vt.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Oct. 30, 1899:

Asst.-Surgeon F. B. Hancock detached from the *Eagle*, and when relieved, ordered home to wait orders.

Asst.-Surgeon C. A. Crawford, detached from the *Massachusetts* and ordered to the *Eagle*.

P. A. Surgeon R. S. Blakeman, promoted to passed assistant-surgeon from May 27, 1899.

Pharmacist L. G. Lous, retired from September 30.

Pharmacist E. Eagling, ordered to the naval hospital, Yokohama, Japan, immediately.

Medical Director M. C. Drennan, detached from the naval recruiting rendezvous, Philadelphia, Pa., and ordered to Washington, D. C., October 11, for examination for retirement, and then home and to wait orders.

Asst.-Surgeon E. J. Grow, detached from the *New Orleans* and ordered to the *Massachusetts* immediately.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Oct. 7, 1899:

SMALLPOX—UNITED STATES.

Massachusetts: Chelsea, September 23 to 30, 3 cases; Everett, September 23 to 30, 1 case.

Michigan: Battle Creek, September 16 to 23, present; Maple Grove, September 16 to 23, present.

Ohio: Cincinnati, September 22 to 29, 1 case; Dayton, September 23 to 30, 1 case.

Virginia: Portsmouth, September 23 to 30, 1 case.

Washington: Seattle, September 16 to 23, 2 cases,

SMALLPOX—FOREIGN.

Belgium: Antwerp, September 9 to 16, 2 cases.

Germany: Dusseldorf, September 2 to 9, 1 case.

Greece: Athens, September 9 to 16, 15 cases, 2 deaths.

India: Bombay, August 29 to September 5, 1 death.

Mexico: Chihuahua, September 16 to 23, 2 deaths; Mexico, September 3 to 17, 6 cases, 6 deaths.

Russia: Moscow, September 2 to 9, 1 death; St. Petersburg, September 2 to 9, 2 cases, 1 death; Warsaw, September 9 to 16, 1 death.

Straits Settlements: Singapore, August 12 to 19, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Key West, September 29 to October 5, 232 cases, 8 deaths.

Louisiana: New Orleans, September 23 to October 4, 18 cases, 2 deaths; to date, 33 cases, 10 deaths.

Mississippi: Centreville, September 29, 2 cases; Jackson, October 2, 12 cases, 4 deaths; Mississippi City, September 29, from outbreak, 26 cases, 1 death.

YELLOW FEVER—FOREIGN.

Colombia: Barranquilla, September 9 to 16, 1 case, 1 death; Panama, September 5 to 19, 7 cases.

Cuba: Havana, September 15 to 22, 10 cases, 4 deaths; Santiago, September 9 to 16, 3 cases, 1 death.

Mexico: Tuxpan, September 11 to 25, 11 deaths; Vera Cruz, September 21 to 28, 4 deaths.

CHOLERA.

India: Calcutta, August 19 to 26, 5 deaths; Madras, August 26 to September 1, 1 death.

PLAGUE.

Africa: Magunde, Delagoa Bay, September 22, present.

China: Niuchwang, September 12, sporadic, 5 to 10 deaths daily.

Egypt: Alexandria, September 3 to 10, 2 cases.

India: Bombay, August 29 to September 5, 96 deaths; Calcutta, August 19 to 26, 42 deaths.

Russia: Koloborka, Government of Astrachan, July 16 to August 12, 24 cases, 23 deaths suspected.

CHANGE OF ADDRESS.

Barnett, T. M., from Verbena, Ala. to 210 E. 16th St., New York City.
Burkholder, C. E., from Delphi, Ind. to Moberly, Mo.
Bacharach, H., from Faribault, Minn. to Finley, N. D.
Egbert, T. H., from Beelerton to Clinton, Ky.
Gallow, W. F., from Toronto to Elgin St., Goderich, Ont.
Hyde, E. E., to 100 Laflin St., Chicago.
Holden, W. B., from Battle Creek, Mich. to 28 33d Place, Chicago.
Heise, W. F. C., to 3d and Walnut Sts., Winona, Minn.
Johnson, P. B., from Norfolk, Neb. to 644 W. Harrison St., Chicago.
Jones, H. G., from Van Wert, O. to 42 Laflin St., Chicago.
Kurtz, C. J., from Flint, Mich. to 802 E. 47th St., Chicago.
Louis, J., from 157 W. 123d St. to 780 Park Ave, New York City.
McMurray, O. M., from 322 S. Wood St. to 1355 Wabash Ave, Chicago.
Miller, E. C., from Rockwell, Ia. to Brooklings, S. D.
North, T. L., from Greenville to German, Ohio.
Neilson, T. R., from Cape May, N. J. to N.W. Cor. 17th and Sansom Sts., Philadelphia, Pa.
Regar, H. K., from 1509 to 1909 N. 13th St., Philadelphia, Pa.
Sherwood, F. R., from 70 E. Madison to 100 State St., Chicago.
Seton, W. H., from 27 W. 84th to 168 W. 96th St., New York City.
Vaden, W. E., from Triune to Rich Creek, Tenn.
Wright, S. J., from Tal mage to Akron, Ohio.
Williams, R., from Carthage to 535 Washington Boul., Chicago.

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Address.

PROGRESS IN PEDIATRICS.*

BY HENRY E. TULEY, A.B., M.D.

rofessor of Obstetrics and Clinical Professor of Diseases of Children, Kentucky University, Medical Department; Visiting Physician Masonic Widows' and Orphans' Home, etc.

LOUISVILLE, KY.

The Constitution of the Association provides that the airman of each Section shall deliver an address at its st session, which shall be a review of the work done in at special field during the year past, and make any commendations he may deem best in regard to the rk of the Section.

All of the special, and many of the general journals ve been teeming with articles of great interest to the diatrist, and it is no wonder now that this Section has own to be one of the most dignified and important ctions of the great AMERICAN MEDICAL ASSOCIATION. s programs are always replete with live subjects by -to-date men, and its meetings attract many who are affiliated with other Sections, the surgeon, the special- and the general practitioner.

From the time when Dr. Wm. Shippen,[1] the first to ve a lecture on diseases of children in this country, livered his eleven lectures on midwifery in 1762, con- uding them with particular lectures on diseases of omen and children, with special directions concerning e diet of each, and methods of choosing and making od nurses, to the present time, the advance in the aching of pediatrics has been steady. How satisfactory is to look back over the history of the years gone by d see the gradual increase in the recognition given diatrics in literature, in schools, and in general and ecial practice! Only very lately the Jacobi ward in nnection with Roosevelt Hospital has been estab- hed by endowment. This is to be devoted entirely to e clinical study of pediatrics under the pioneer acher, Jacobi. In this the ideal has been reached, and e trust the example will soon be followed in other eat teaching centers.

The wealth of material offered you on our excellent ogram is the outcome of the zeal and great interest of r efficient secretary, to whom our thanks are due. It s often occurred to me that, if our Section would adopt e policy of the Section on Neurology, in having a rmanent Secretary, the interest of its members, in- vidually and collectively, could much better be served an by yearly changing, as is the present custom. On e secretary largely depends the success of the meet- g. When retained permanently he becomes acquainted ith those who will attend the Section meetings, and those who are desirable contributors; he knows how long a program should be and the proportion of those promising papers who will attend. This suggestion is offered, believing its adoption will best subserve the interests of the Section.

One of the best methods of arousing interest in the Section is to have published accurate stenographic reports of the discussions, and we feel there will be no complaints arise from this meeting.

It is to be hoped that the members will early subscribe for the requisite number of Transactions of this meeting, to insure the publication of a volume. The volume of the Denver meeting was the first, we think, ever issued, at least the first for a number of years, and it is to be hoped that each session in the future will vote its volume, that the list may be unbroken. In this volume should be included a short biographic sketch of the members of the Section who have died during the year; the Secretary, being in touch with the members in the interim between meetings, could act as a committee of one on necrology, making a yearly report.

Just one year ago, June 12, Dr. John A. Larrabee of Louisville died. He was chairman of this Section in 1896, at the Philadelphia meeting, and lay at the point of death during our meeting at Denver. I am told that the telegram of sympathy sent Dr. Larrabee on his deathbed by the Section was deeply appreciated by him. The only other death that has come to my notice is that of Dr. Ella E. Barnes of Birmingham, in July last. She was a regular attendant on the Section meetings and a regular contributor to its program. I would suggest the appointment of a special committee on necrology, to be appointed at this meeting and to make an early report, the same to be published in the volume of Transactions.

Another matter of considerable importance to the Section is the work done by the O'Dwyer Memorial Committee. This committee is composed of representative from all associations that are devoted to the study of pediatrics. At the Denver meeting of the Section, on motion of Dr. Louis Fischer, a committee from the Section was appointed, as follows: Dr. Louis Fischer, New York City, chairman; Dr. F. E. Waxham, Chicago; and Dr. J. P. Crozer Griffith, Philadelphia. The Memorial Committee has held two meetings at the Academy of Medicine, New York, at one of which an executive committee was appointed, consisting of the following members: Dr. Geo. F. Shrady, chairman, Drs. Dillon Brown, L. Emmet Holt, Godfrey Freeman, Robert Abbe and Louis Fischer. Several meetings of this committee have been held, and their unanimous belief is that the memory of the late Dr. O'Dwyer can best be perpetuated by patterning after his own life's work, establishing a fund, the interest of which shall be large enough to stimulate original research in the department of pediatrics. The writer is informed by a member of the executive committee that Dr. O'Dwyer's nature was so averse to ostentation that the suggestion of a portrait, bust or statue would have been very distasteful to him, hence the committee's decision as detailed. An opportunity will be given the members of the Section to hear from Dr. Fischer of the latest developments in the committee's work.

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*Chairman's Address to the Section on Diseases of Children, at the ftieth Annual Meeting of the American Medical Association, held at lumbus, Ohio, June 6-9, 1899.

The question of no morning sessions of the Section is an innovation, and was decided on with some hesitancy by your chairman; but it was finally so arranged with unanimous consent and approval of the executive committee. Only afternoon sessions of the Section were originally intended by the ASSOCIATION, but because of the large number of papers offered, as the various Sections grew, two sessions became the custom. But, as the general sessions of the ASSOCIATION must necessarily be prolonged until late in the forenoon, the Section meetings in the forenoon are delayed in opening, always poorly attended, and but little work done; hence it is believed the arrangement for only afternoon sessions will be appreciated.

Because of the large number of papers on the program for each session, it is hoped that the discussions will be prompt. With these suggestions in regard to the Section work, I will proceed, first to the subject of

INFANT FEEDING.

Infant feeding has received much attention from writers in the past year, and it is gratifying to note with what unanimity cow's milk is recognized and advocated as the best substitute for mother's milk. The advances made have been in the direction of an easy and correct method of home modification. It is gratifying that the Walker-Gordon laboratories are being established in all the larger cities, and we hope shortly to have one in Louisville, but even these, where available, are denied many on account of the cost. The method of artificial feeding which will prove most popular with the laity must embody two requisites: cheapness and ease of preparation. On the physician, then, devolves the great burden of educating the people beyond the indiscriminate use of proprietary foods, and the importance of accuracy in the preparation of the food prescribed.

The best food, almost without exception, is cow's milk. Unfortunately, the average physician has not learned the importance of thinking of cow's milk as capable of modification to meet the needs of the child, beyond the vague instructions, perhaps, to add a little water for dilution. He has not learned to think in percentages—the first principle of milk modification—nor that the adaptation of percentages can not be governed by the age of the child, but the individual capacity of the child to digest milk made after certain formulæ. When this has been learned, the best method of modification is to be adopted, and the latest developments have been in the direction of simplifying that process. The ideal method is, of course, by the Walker-Gordon laboratory, when this is available; for the laboratory has come to stay, a prediction made by an esteemed member of the executive committee of this Section, Dr. A. C. Cotton, in his admirable Chairman's Address at the Atlanta meeting of the ASSOCIATION.

When home modification has been decided upon, most excellent results can be had from the method suggested by Dr. Wm. L. Baner[2]. There have been many methods suggested, all embodying some arithmetical calculation, more or less simple, but in the writer's hands none has proven so satisfactory as that of Dr. Baner. Looking to a greater simplifying of home modificati Estraus, a New York merchant, has devised a sim apparatus which he has called the Materna. This c sists of a glass graduate on which there are seven pan with horizontal lines marked on the different sides indicate the amount of each ingredient of a milk m ture, to produce different percentages of the milk. objection to the original model made by Dr. J. P. Cro Griffith[3], was the marking on the various panels cert weeks and months, to indicate the age at which milk is to be changed to a stronger mixture, which Griffith urged, placed too much power in the hands the mother. On his suggestion, a new model will prepared, which will correct these features, the vari formulæ being designated by numbers.

Unfortunately for the physician as well as for laity and the poor little ones who must feed u milk, the average milk-supply of cities is marke inferior, dirty, impure, diluted and entirely unsuita Without an adequate municipal control and inspect of the dairy, and general supervision of the handling the milk, the baby is bound to be the sufferer. For ho modification an unvarying standard of milk and crea the first requisite, a thing most difficult to be obtai in most cities. We hope this question of milk supe sion and inspection of dairies will be urged in all m nicipalities by the doctors, as they are deeply interes

PNEUMONIA.

The subject of pneumonia has been considered many authors, and it is surprising, but pleasing, find what unanimity there is in regard to its treatme Lobar pneumonia is regarded as a self-limited dise and we are cautioned that there is danger in over-m ication in children so afflicted. We have learned that cold is always to be preferred as an antipyretic medicine. Dr. Thomas J. Mays, Philadelphia, has d much to popularize the use of ice in the treatment pneumonia of all ages, and the writer has seen so most excellent results from its use. The author j referred to has lately given some statistics showing death-rate, in all ages, with the use of ice, of 4.25 cent. in 400 reported cases.

The pulse should always be the guide for stimulati both when to administer the stimulant and how mu The conduct of a case of pneumonia now and that even ten years ago is very different indeed, due entir we believe, to the extended knowledge of the pathol of these morbid conditions. Some, however, even n advocate the use of flaxseed poultices in pneumon Chase[4] reporting 45 cases in which certain methods treatment at present in disrepute were used. He c cludes by saying: "Poultices are of much value. effect is soothing, pain is diminished, dyspnea relie and râles lessened."

DIAGNOSIS OF THE EXANTHEMATA.

The importance of an early diagnosis of the ex themata is generally recognized, unless it be by s of the laity who expose their children purposely contagions when they are young, in order to have th through with it. Every means at our command sho be used for the differentiating of the skin lesions childhood. As an aid to diagnosing measles, Kop has described a characteristic change which occurs the mucous membrane of the mouth, and which Gu man[5] considers the only pathognomonic sign of m les. He describes it as a "very small, round, bla white spot, of more or less uniform size and sh with either a definite area of congestion or a diff l background. They never ulcerate, occur on the ucous membrane of the cheeks and lips, rarely on the ngue, and not on the gums, pharynx, hard or soft late."

It occurs to the writer that it is a most decidedly d practice to dub a pathologic condition with an thor's name, as has been done in this instance, the ndition being referred to as "Koplik's Spots." Rather fer to it, as one author has done, as the "Buccal Erup- on in Measles, Koplik," which will be infinitely more sily classified in indices. Far be it from my intention wish the author who first described this condition orn of the honor which is his for first mentioning We are greatly indebted for his acumen in first ticing it and publishing his observations, but it is the actice of obscuring a good diagnostic sign by not re- rding it more definitely and in detail, that we pro- st against.

Another sign described by Bologni is the sensation rubbing or crackling imparted to the flat hand placed the abdomen of the patient, whose legs are held fully tended. Dr. A. Koppenorden[7] observed the phenom- on in a number of cases, in an epidemic comprising 00 cases, and describes it as a sensation of crepita- on, felt by the fingers, due, he believed, to air in the testine. It is described as very characteristic when lt. (The writer has not been able to verify this con- tion in a number of cases.)

DIAGNOSIS OF PERTUSSIS.

Of equal importance is the early diagnosis of per- ssis, which Wagner[8] claims is possible quite early, d at once, by bacteriologic examination of the nasal cretions. He states that the secretions of the normal ucous membrane of the nose contain very few bacteria, hile in whooping-cough we find a large mass of bacteria one kind, a natural pure culture of "polbacteria." his bacteria, when full grown, is two to three times as ng as it is broad, is rounded and somewhat thickened its ends, and is divided in the middle. The method f staining used by the author consists of methylene lue in a weak alkaline solution. This stain is then ecolorized by a 2 per cent., freshly prepared argonin olution, which reduces the methylene blue in the cells nd their nuclei quicker than in the bacteria. To pre- ent a re-oxidation of the leukomethylene-blue by atmos- heric oxygen, the specimen is washed with a concen- ated solution of cream of tartar. He mentions the ase of Czaplenski, who was taken ill with whooping- ough during the study of the disease, the examination f his nasal and pharyngeal secretions showing the same acterium he was studying, thus verifying the bacterium s the cause of the disease. This is certainly worthy of urther investigation.

PREVENTION OF OPHTHALMIA NEONATORUM.

While we have always believed that there was no anger in the universal employment of the Credé treat- nent of the eyes of the new-born, the pendulum has wung backward of late, and a number of authors are eporting cases in which the 2 per cent. nitrate of silver olution instilled into the eyes has been the cause of rouble, such as haziness of the cornea or a severe con- unctivitis. Some would limit the use of the silver so- ution to those cases in which there is a vaginal dis- harge in the mother, others advocate the universal use f it, despite ill results in a few cases. It would seem hat in protargol and argonin we have efficient remedies, s their continued use in the hands of a number of ob- ervers has demonstrated clearly that they have a place n therapeutics. Perhaps if one were substituted for the nitrate of silver, a modified Credé treatment, less evil would result and the same good be obtained. It certainly warrants further trial, despite one case reported by Wilson,[9] of ophthalmia developing in eyes in which protargol had been used immediately after birth. Peck[10] recommends the use of protargol and argonin in the treatment of purulent ophthalmia of infants, because of the quicker destruction of the gonococci, the earlier disappearance of secretion, and of inflammatory process, and the restoration of injured corneal and conjunctival tissues. It is used in a 5 per cent. solution. This is a most important subject for the pediatrist, the obstetrician and ophthalmologist as well. The specialist tells us an alarming number of children are totally blind as the result of gonorrheal ophthalmia. We should find a universally safe remedy to be used as a prophylactic, as it is an injustice to the child for it to be left to the physician's judgment as to the necessity of using a mild or more active prophylactic.

DISEASES OF THE MIDDLE EAR.

Dr. Wm. Cheatham,[11] Louisville, has published a paper in which he discussed the special germs found in inflammatory conditions of the middle ear. A brief reference is made to the importance of bacteriologic investigation in suppurative inflammation of the middle ear. The article dealt chiefly, however, with otitis media acuta, due to cold and catarrhal extension from the nasopharynx, in which the pneumobacillus of Friedlander and the diplococcus of Fränkel play an important part. He reports a case of acute suppuration of both middle ears, the left resulting in attic trouble, the pus showing externally, posterior to and on the superior edge of the external auditory canal. In this case there was also an acute primary tonsillitis, in which a pure culture of the diplococcus of Weichselbaum was found, the same organism found in the pus from the ears. The writer has had in his service, at the Masonic Widows' and Orphans' Home, a series of cases, in a short period of time, in which there occurred acute middle-ear trouble, beginning with a chill, rapid rise of temperature, pain and rupture of the drum membrane. One child, a girl, developed a lobar pneumonia before the discharge from the ear had ceased. Cultures from the ear were taken and examined in the bacteriologic laboratory of Kentucky University, by Dr. Florence Brandeis, the pneumococcus, along with other cocci, being found. This brings us to a practical point in these cases: Can the pneumonia in any way be prevented by thorough and early cleansing of the ears of all children who have had a perforation of the drum membrane from acute middle-ear inflammation? Should not all children so afflicted be isolated until discharge from the ear be found free from the diplococcus, tubercle bacillus, etc.? So many cases of acute middle-ear trouble at one time have never been seen before in the history of the institution.

CHILDHOOD IN ITS RELATION TO EPILEPSY.

It was with pleasure we read the paper by Dr. Hugh T. Patrick,[12] Chicago, entitled "The Epileptic Child and His Future." In the paper he ably puts forward the advantages of the colony treatment of epileptics, and we wish it might be placed in the hands of every State legislator in the Union, for careful perusal. The success of the two state institutions in this country, Ohio and New York, has been so apparent that other progressive states must soon fall in line. It behooves the members of this Association to bend every effort to have their legislative bodies investigate this matter and speedily provide like institutions.

TYPHOID FEVER.

Typhoid fever in infants and children presents many characteristics of interest, and much more is known now of it than formerly. A number of reports have been made of cases in cities where there have been epidemics, notably Philadelphia, which holds the palm for the severity and duration of its epidemic, and we have learned much from these observations. Bryant[13], in a recent article, reports a case of typhoid fever in a child nearly two years old, without any lesion in the intestine, though all the clinical phenomena and the Widal reaction were present, the bacillus of Eberth being found on culture from the mesenteric glands. The same author recites fifteen cases from literature, the typhoid bacillus being found in the spleen, liver, kidneys, lungs, mesenteric glands, heart and biliary passages, showing that wherever is the nidus of bacterial growth the toxins will cause symptoms of typhoid fever. Griffith[14] has found typhoid in children in whom the autopsy did not reveal lesions in the intestine. He states this is a characteristic condition in the fetus, but less so in older children. Yet, in this day of enlightenment physicians will still use the so-called Woodbridge treatment of typhoid fever! That typhoid fever may occur in infants under one year of age can not now be disputed, though under ordinary conditions it is infrequently seen.

ANTITOXIN TREATMENT OF DIPHTHERIA.

This address would not be in a measure complete without a reference to the antitoxin treatment of diphtheria. No therapeutic agent in the history of medicine can be compared to it in value. It is quite true that there is nothing quite so uncertain or misleading as statistics; they can be dexterously handled by those for and against a proposition, in order to prove a point, but when one is overwhelmed with the "brute force of figures" there is no room for discussion. In this country as well as abroad there are most gratifying statistics in regard to this remedy. The Chicago Board of Health has just published a remarkable table[16] showing the deaths from diphtheria and croup for the period 1886 to 1895, before the antitoxin was in use. During this time there were 14,175 deaths, a yearly average of 1,417, while in the subsequent three years of antitoxin treatment there were only 2,552 deaths from the same cause, a yearly average of 851. The *Philadelphia Medical Journal,* commenting on this report, says editorially: "Without regard to any change in population there have been absolutely 566 fewer deaths from diphtheria and all croup each year of the last three years than the average number of deaths from the same diseases during the preceding ten years; an actual, not comparative or proportional saving of 1,698 lives from this class of diseases during the antitoxin period." Another striking feature, already impressed on our minds, is in regard to the time of injection of the antitoxin. Of 129 cases treated on the first or second day of the disease, there were no deaths, and only three deaths among 114 treated on the third day, a mortality of 1.23 per cent. in 243 cases. Truly, these figures should make the heart of every physician glad, and encourage him to the prompt use of this valued remedy. It is no experiment now; it is an indisputable fact.

NEW INSTRUMENTS.

Among the new instruments suggested during the year, of special interest to the pediatrist, are the modified intubation tube, from the original by O'Dwyer, and two specially devised tongue-depressors. Dr. H. D. Chapin[17] has suggested one which is small and curved forward, so that when the end has reached the tip of the epiglottis, the base of the tongue would be well controlled. Dr. A. D. Blackader[18] has suggested a somewhat similar one, curved so as to adapt itself exactl to the base of the tongue. On the distal extremity blunt fork is fixed, of which two branches descend, on on either side of the laryngeal orifice. The instrumen serves to control the tongue, pull forward the rim glottidis from the posterior wall of the pharynx, an is of exceptional value for use of the laryngoscopi mirrror. The movements of the child must be controlled by a sheet rolled around its arms and legs, i being carefully held on the knees of an assistant.

EDUCATION OF THE CHILD.

The question of education of the child has been to long neglected by the physician; and when it was considered of old it was only to be at war with the pedagogue. Under the new régime, educators have taken u "Child Study," in which this war bids fair to end. Ther is a clearer understanding between the educator and th physician; a mutual assistance to a better knowledge o physiologic psychology. It is no longer education a any cost, health being the last consideration; now th teacher realizes she is partly responsible for her charge' health. Unhygienic requirements of education and unsanitary conditions in school life, so long in vogue, ar now pointed out, and it is to the physician that th teacher must look for guidance along these lines. I is no longer "take the child out of school," but "remed the unhygienic conditions which are making the acquirement of education incompatible with health." Th educator has met the physician more than half wa and child study, and the new physiologic psycholog now engrossing the minds of educators, are the resul For the newest points in regard to this subject, fro the standpoint of the educator, the writer is indebte to Miss Patty Hill, the efficient superintendent of th Louisville Free Kindergarten Association.

Small, accurate manual work, both in the kindergarten and lower grades, has been given up, becaus productive of nervousness and undue fatigue. Abnormalities of sight and hearing are more closely observed, bad breathers are singled out, and much that i pathologic is corrected by bringing it under medica observation when these troubles are in their incipienc

Observations are now being made on entirely independent lines, of the waves of vitality and fatigue, tha adjustment of the most difficult studies of the day ma be made according to the periods of the strength an decline of physical force. In this connection may b mentioned the work of a memeber of this Section. D W. S. Christopher, Chicago, on the ergograph, a delicate instrument for accurately registering the fatigue o a child at various times during the school day. Useles wear and tear, fatigue and irritability are thus avoided

Washing of school floors with antiseptics, the individual drinking-cup, and every detail looking to the prevention of disease is intelligently considered, and th educator is now crying for the medical inspection o schools. This has already been adopted in several citie with most gratifying results.

It is the ordinary, commonplace things in the child' life to which our attention must be directed; look to th prevention of such diseases as we can in the ordinar school life of our own children and those of our clientèle; influence state and municipal legislation for th good of the child, the school and the community. I need be, enter politics yourselves, and bring about much needed reforms.

BIBLIOGRAPHY.

1. Packard: Journal of the American Medical Association, March 1899.
2. New York Medical Journal. March 12, 1898.
3. Archives of Pediatrics, April, 1899.
4. Boston Medical and Surgical Journal, vol. cxl, 15.
5. Medical Record, April 9, 1898.
6. New York Medical Journal, Oct. 15, 1898.
7. Muuchen. Med. Woch., 897, 1898.
8. New York Medical Journal, Oct. 8, 1898.
9. Philadelphia Medical Journal, Feb. 11, 1899.
10. Medical News, Jan. 21, 1899.
11. Medical Record, Oct. 1, 1898.
12. Philadelphia Medical Journal, Feb. 11, 1899.
13. British Medical Journal, No. 1996.
14. Philadelphia Medical Journal, Oct. 15, 1898.
15. Therapeutic Gazette.
16. Philadelphia Medical Journal, April 1, 1899.
17. Archives of Pediatrics. April 1, 1899.
18. Progressive Medicine, i, 1.

Original Articles.

ECRETION AND EXUDATION CONSIDERED AS A FACTOR IN DISEASES OF THE EYE.*

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As *secretion, exudation* and *infiltration* are so much ncerned in the diseases of the eye, I ask your attention, a general way, to these subjects, not that anything new offered, but as an introduction to the topic under con-deration.

Secretion is a physiologic process, and consists in the aboration from the blood, or other sources, of material hich is discharged on the external or internal surfaces f the body. The material so separated and discharged a secretion. Many of the secretions have special uses, hich do not involve their discharge from the body. thers have no office to perform, but are separated from ie blood to be discharged from the body; such may be ermed excretions. Most secretions in a healthy body onsist of certain well-known combinations, but when iese combinations vary, or when new materials enter ito their construction, the secretion may be considered bnormal.

Exudation is not a physiologic process, but the pour-ig out or exuding of an adventitious substance in or n the tissues of the body. Infiltration is another term or exudation, and may be used synonymously. It means he insinuation of an adventitious deposit or fluid be-ween the elements of a tissue. The following infiltra-ions are adventitious or pathologic: Serous, sanguin-us, urinous, cellular, purulent, tubercular, amyloid—vaxy or albuminous. Those that occur normally are: 'he fatty, pigmentary and calcareous. Either of the atter may, under certain conditions, become abnormal.

With the above general physiologic and pathologic rinciples, we are the better able to consider the manner n which these processes affect the eye. I believe that if here exists within the blood a toxic element, no matter vhat the nature of that element, or its cause, there exists vithin the living organism potent agencies of nature vhich carry on the indescribable process of elimination. This effort to eliminate is not always performed in the ame manner, but the usual way, when it is revealed in he eye, is by exudation. In the exudative process, espe-ially in the affections of the eye, there is always present nore or less inflammatory action. It can be safely laid lown as an axiom that there is always associated with an exudation or infiltration of adventitious matter more or ess congestion of the blood-vessels of the parts involved. In the eye, however, owing to its delicate vascular structure, a congestion of its blood-vessels is, in many instances, soon detected, especially for the reason that the vision is extremely sensitive to the slightest causes; besides, the organ both internally and externally is so admirably subject to ocular examination. As the very small blood-vessels are most liable to the exudative process, the vascular system of the eye is a prolific field for its accomplishment.

In inflammatory actions there are always two conditions present which have important bearing, especially on an organ of such delicate construction as the eye. The first condition is peculiar change in the small blood-vessels, which causes the blood, and especially its corpuscular elements, to adhere to and pass through them, forming an exudate. The second condition is the proliferation of the cells thus formed. These conditions are mostly brought about by traumatic, specific or toxic effects; and rheumatism and gout have also been held responsible, but whether it is the rheumatism and gout, or the conditions which bring about these affections, is a question not satisfactorily determined.

There is another condition that favors the exudative process in the eye. I refer to the loose connective tissue of which some parts of it are composed. This is found mainly in the conjunctiva, the uveal tract and in the retina.

The conjunctiva, composed as it is, mainly of loose connective tissue, may become edematous to the point of chemosis, from an exudation in the connective tissue which lies within its structure and underneath it. This condition is the usual result of a purulent ophthalmia, which is a splendid illustration of perverted secretion, but frequently of disease situated in the orbit, as orbital periostitis or cellulitis, or of disease of the eye proper, as choroiditis or iritis. This exudate in the connective tissue of the conjunctiva comes from the conjunctival blood-vessels and lymph-channels, and is probably in most cases due to some mechanical interference with the circulation of the blood or lymph rather than to systemic conditions.

I desire to particularly consider the exudative process in the eye proper and not its appendages, and shall do so in the order of its structural arrangement, beginning with the cornea.

Preliminary to considering the influence of the exudative process on the several structures of the eye we should be reminded that pathologists have informed us that an exudate is composed principally of a colorless granular mass of protoplasm of which the leucocyte is the type, and of which there are at least four distinct varieties recognized, viz.: the white blood-corpuscles, the lymph-corpuscles, pus-corpuscles, and the wandering connective-tissue cells. Whichever variety of the above is predominant in any particular case determines to a very great extent the result of the lesion. This applies not only to the system at large, but especially to the eye. All of these varieties occur in different structures of the eye, but the exudation of lymph-corpuscles is perhaps the most common.

The simplest type of the exudative process in the structure of the eye proper consists in the exudation of lymph-corpuscles, and is seen in the corneal ulcer of the phlyctenular type. Here one or two conditions may result, neither of which is usually very detrimental to the vision; resorption of the exudate, or breaking of the epithelium over the exudate and the formation of an ulcer. As a rule, if the exudate is not central, the vision is not seriously affected.

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*Presented to the Section on Ophthalmology, at the Fiftieth Fiftieth Annual Meeting of the American Medical Association, held mbus, Ohio, June 6-9, 1899.

One of the most serious forms of the exudative process of the non-suppurative type is seen in interstitial keratitis, in which affection the white blood-corpuscles are predominant, but often with a few giant or wandering connective-tissue cells. Only those who have treated this disease know how chronic it is and how enduring its effects. The above conditions occur when the exudate is composed mainly of lymph and is non-suppurative. But the most serious affection of the cornea presents itself in abscess, which, when not traumatic, is due to the exudation of pus-corpuscles, one of the varieties just mentioned. In this instance there is no such thing as resorption, and the lesion made by the presence of the pus and its exit leaves a permanent cavity in the cornea, if not a great destruction of its tissue, with the intrusion of the iris within the wound, a condition as a rule demanding enucleation of the organ.

The uveal tract—the iris, ciliary body and choroid—any part of which is very liable to inflammatory action, is, because of its very vascular and loose connective tissue, a prolific field for infiltrations, which often are absorbed, with or without atrophic changes. There is no better illustration of the exudative process in any affection of the eye than is seen in iritis in any of its forms.

The character of the exudate, that is whether it is principally serous or plastic, determines to a great extent the diagnosis and treatment of the affection; for it is this that so distinctly differentiates if the cause is rheumatism or syphilis.

The evidences of exudation in cyclitis, although not so readily observed as in iritis, are positive, as turbidity of the aqueous humor, flocculi of lymph and occasionally flakes of pus may be seen in the anterior chamber. The vitreous chamber is also filled with floating opacities, doubtless of the same character as that seen in the anterior chamber. No doubt the exudate in the choroid is of the same character as that in the iris and ciliary body—that is serous, plastic or purulent, but is not so readily distinguished, for in iritis and cyclitis the character of the exudate is readily seen—but in choroiditis we must depend largely on certain distinguishing symptoms; for instance, in serous iritis the inflammatory symptoms are not well marked and the patient suffers very little pain, while in plastic choroiditis the inflammatory symptoms are well marked and the pain is very severe.

There appears to be no longer a doubt that glaucoma is due to an excess in the lymph occupying the suprachoroidal space, the direct product of an exudation from the choroidal vessels. There is no doubt that the retinal lesions in renal disease are mainly due to exudative deposits and extravasations.

When the nerve-fiber layer of the retina is affected it is doubtless the result of a mechanical condition, that is, to pressure due to the swollen blood-vessels and connective tissue rather than to toxic influences. The same may be said of glycosuric and perhaps all other forms of retinitis.

Microscopic examination of the different structures of the retina in the different forms of retinitis develops about the same condition, that is, the capillaries are thickened and disposed to rupture, and the blood-corpuscles are more abundant in these regions. The nerve-fibers are also found thickened and contain inflammatory nuclei, together with red blood-corpuscles. The arteries in different parts are thickened in structure. In other parts are found crystalline masses and fatty substances, residue, doubtless of some form of exudate. All of the above conditions are positive evidence of the former existence of some process of exudation.

The most important matter for consideration in this subject is the therapeutic possibilities. What remedies have special properties in regulating the exudative process in the eye, and the modus operandi?

Atropin has rightfully been considered as the sheet-anchor in iritis, but has it a special action on the process of exudation limiting it, or is its effect mechanical, consisting of a paralyzation of the circular fibers of the iris, causing the pupil to dilate and thus preventing an adhesion of its border to the lens capsule? It is said to check the secretion. If such is the case, this alone would be beneficial in iritis. It would also be beneficial on the same grounds in glaucoma. But in this affection we find that it is very injurious and often precipitates an acute attack from the chronic or subacute form. Its action is doubtless due, in this case, to the closing of the meshes in the ligamentum pectinatum, by folds of the iris, and thus preventing, to a greater or less extent, the free communication of the aqueous humor with the canal of Schlemm.

A remedy that would control or limit to a great extent the process of exudation, especially as found in many of the diseases of the eye, would be a great desideratum, and I read this paper for the purpose of eliciting what has been observed by the members of this Section, with regard to the therapeutic possibilities. So far as my practice is concerned, outside of the local treatment, which is familiar to all, the iodid of potassium has been the more beneficial. In iritis, cyclitis, choroiditis and glaucoma I have noted positive effects. I have known it to relieve pain in these affections, often as promptly as morphia, and much more permanently.

I believe that the iodid of potassium has special action upon the inflammatory affections of the uveal tract, how it executes the results I am unable to say, but I do know that it has accomplished very much for me in these affections. I give it in the saturated solution in milk before meals. I usually prescribe not less than one teaspoonful (sixty grains) in a wine-glass of milk, and seldom hear of its disagreeing with the most delicate stomach.

EXAMINATION OF THE ACUTENESS OF VISION, COLOR PERCEPTION AND HEARING OF RAILWAY EMPLOYEES.*

BY CHARLES H. WILLIAMS, M.D.

BOSTON.

It is very essential that men engaged in the movement of railway trains, and in the quick reading of signals, by day and by night, should have such acuteness of vision as will enable them to correctly read the signals in use at the necessary distance; such perception of color that they will not, under any of the varying conditions of service, mistake a red signal for a green, or vice versa; and good hearing.

On the head end of a train it is important that these essentials should be found in even a higher degree than will suffice for the safe performance of duty in other branches of the service, and the question arises, what are the standards that should be required for the different branches of the service, and what are the best and fairest methods of examining men to make sure they come up to these standards.

The semaphore railway signal, which is coming more and more into use as the best position signal, consists of a movable arm about forty-six inches long and nine wide, tached to a vertical post so that it can be set in a hori- ntal position to indicate danger, stop; or, inclined half ay or more toward the vertical post to indicate safety, ahead.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In order to have plenty of room to stop a train, such a gnal should be distinctly seen at a distance of half a ile. If at this distance lines are drawn from each end the arm of the signal to the eye of the observer, the nes will form with each other an angle of about five inutes, in other words the length of the arm will be en as subtending a visual angle of five minutes. In the me way the width of the arm will appear to subtend angle of one minute. These angles, which have been osen by signal men as best answering their needs from practical standpoint, are the same which have been und to represent the average normal acuteness of sion. Some years ago Professor Snellen found, as the sult of a large number of examinations, that the aver- e normal eye could easily distinguish letters whose ight subtended a visual angle of five minutes, and the fferent parts of the letters an angle of one minute, and ch letters, printed in a square space, have been univer- lly adopted as the measure of normal acuteness of sion. Therefore, it follows that if a man has sufficient uteness of vision to read the test-letters when seen un- r the standard angle of five minutes, he will also be le to clearly see the semaphore signal, under ordinary nditions, at a distance of half a mile. There is, how- er, this difference between the signals and the letters, r with the former it is only necessary to see whether e arm stands horizontal, at danger, or inclined in the sition of safety, whereas with the letters much smaller fferences must be noticed, as between C, D, O, or E, P, etc.

It is found in practice that the semaphore arms can be ad correctly and easily by men who have only 20/30 of rmal acuteness of vision, as measured by the letters, d I have recommended to several railroads that it will safe to allow as a minimum standard 20/30 of normal sion for the re-examination, every three years, of their ginemen, firemen, towermen and draw tenders. This plies to those employees already in the service in those cupations, who have become valuable men on account their familiarity with their work, train rules, etc., d it may be regarded as sufficient if this vision shown with both eyes open. Before testing with both es open, each eye should be tested separately, and if it found that one eye has 20/30 and the other less than at, a re-examination should be made every year, to be re that the better eye is not losing ground.

Even with vision of 20/40, as tested with the letters, man can read the semaphore signals, although not so ickly and easily as with better vision, and I have commended, as a minimum to be allowed in the re- amination of old employees, other than those men- oned above, who are engaged in the movement of trains, the use of signals, an acuteness of vision of not less an 20/40 of normal, with both eyes open, each eye ving first been tested separately as before.

These standards apply to the re-examination of old nployes in any of the above occupations, every three ars, and the tests should be made without asses. There is no objection to the use of glasses for ar work, such as the reading of train orders, etc., for all normal eyes there is, with advancing years, a de- ease in the power of focusing for near objects, which quires the use of glasses, but such eyes will see distant jects as well as ever without a glass. In the case of en whose occupation requires them to be out of doors in all kinds of weather, it will be found that in fog, rain and snow, the glasses, if worn, will often be a hindrance rather than a help, and the tendency will be to take them off when the weather conditions are very bad, and thus reduce the vision to what it is without glasses.

I have examined the vision of an engineer who had only 20/100 vision in one eye, and 30/100 in the other, without glasses, although in the favorable conditions of the physician's office glasses brought his vision up to 20/20, or normal in each eye. In his case it would not be safe to count on his having more than 30/100 of normal vision when running through a fog, for the dampness would condense on his glasses so that he would probably find it better to take them off, and in case of accident through the fault of such a man it would be very difficult to prove whether he had his glasses on, or whether they were in good condition at the time of the accident, or not, and although he might resort to the expedient one engineer told me he used, of keeping a bottle of vaselin in his pocket to rub on his glasses in case of fog, even with this help the amount of vision might be a very uncertain quantity.

In the employment of new men, a railroad company is in a position to select the best material from those who apply for work, and a standard of 20/20 without glasses, in each eye tested separately. should be required for firemen, or for those who are likely to be promoted to the position of firemen or enginemen, or for those where special acuteness of vision is required. For other occupations concerned with the movement of trains, a standard of 20/20 in one eye and not less than 20/40 in the other, without glasses, tested separately, should be required, for in employing new men it is not desirable that the minimum standard should be used which would be sufficient for continuance in the service after they have learned the business and become better able to do the work.

In fairness to the men these tests for vision should not be made when they are fatigued, and especially in re-examinations a man should be tested when he is fresh, and not at the end of a long run, for it is found that the fatigue of a long run will cause quite a perceptible diminution in the acuteness of vision, as tested at the beginning and end of such a run; this is an additional reason for requiring a sufficiently high standard of enginemen and firemen, so that such fatigue may not bring their vision below the safety point.

In examining men for entrance to railroad service, some test should be made for hypermetropia, a shorter length of the eyeball than normal, in order to avoid taking men who may have normal vision without glasses when they are young, and can overcome the hypermetropia by an effort of their accommodation, but who, as the power to keep up this effort diminishes with age, will sooner or later find that their vision without glasses is reduced below the required standard. The best way is to have the eyes of such applicants examined by a trained ophthalmologist, with the ophthalmoscope, in order to test the refraction and the condition of the interior of the eyes; if this can not be done it is possible to detect most of the cases of hypermetropia amounting to two diopters, or more, where the vision remains normal without glasses, by having two pairs of glasses in spectacle frames, one pair of plain glass, the other with a convex lens of two diopters for each eye. The applicant is tested by giving him first one pair of glasses and then the other; if he can read the letters at twenty feet. through the plain glasses, but can not read them through the convex lenses, he is accepted, but if he can read them through both pairs of glasses, he is rejected, as it shows he must have at least two diopters of hypermetropia, which would be enough to give him trouble later on.

The size of the test-letters is a very important matter, and unfortunately the test-letters on the market, published by different firms, and even by the same firm, are often inaccurate in their size and shape.

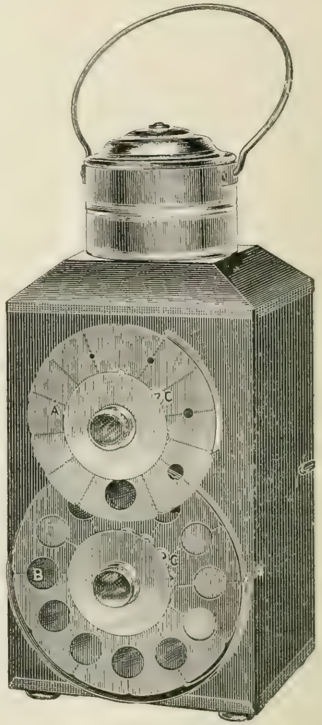
In order to subtend a visual angle of five minutes, when seen at a distance of twenty English feet, such test-letters should have a height of 35/100 of an English inch, and the width of the different parts of the letters should be 7/100 of an inch, and for 30, 40 and 50 feet, the heights should be 52/100, 70/100 and 87/100, respectively.

The most convenient test-types for railway work are those published by the Rand Avery Co., Boston. They are carefully printed on cards 3½x9 inches, one line of letters on each card, with three cards, having a different arrangement of letters on each, for each of the required distances This prevents reading the letters from memory, as the applicant can not tell which of the cards will be shown him, and finds it difficult to read the letters unless he really sees them.

In testing the color perception, two methods should be used: 1, a test by comparison of colors, in which no names are given, but colors are selected which look like the test color; 2, a test with lights of different colors so arranged that the intensity of the lights can be varied, and in which the person is asked to name the lights. The test with Holmgren's worsteds seems to be the best for the first, and a lantern in which various shades of red and green, either alone or combined with London smoke glass to alter the intensity of the color, seems to be the best for the second test. I have found it helpful to have the sets of Holmgren worsteds provided with small metal tags, so that each of the 125 skeins can be numbered, and a record kept of the skeins selected, in every case, as similar to the test skeins. The odd numbers are given to the correct colors, and even numbers to the confusion colors, this makes it much easier to check up the reports of the examinations at the central office, to which they should be sent for approval, and if any question arises in regard to any case it allows the controlling officer to made a reproduction of the colors actually selected. Only two test-skeins are used, the standard green, with which the fact of defective color perception is determined, and the rose, which serves to show whether the defect is more for green or red. The bright red test-skein, which is usually furnished with the Holmgren tests, in many cases only serves to confuse the result, especially when the amount of defective perception is small, and does not add to the value of the test.

For a time I tried the lantern arranged by Professor Donders, and made by Kaagenar of Utrecht, for testing the color sense with lights, but this lantern is not easy to manipulate and does not have a sufficient number of colors, so that I have found a lantern which I arranged for use on the N. Y., N. H. & H. R. R. gives better results. Since April 1, 1899, the tagged Holmgren worsteds and the lantern have been used on the eastern district of the New Haven railroad, in all their color examinations, and the results have been very satisfactory. This is in line with the plan proposed by Professors Donders and Snellen, which was put in effect on the railroads of Holland some years ago, and which has given good results there. It has already been found on the New Haven road, that several men have been able to pass the test with the Holmgren worsteds without selecting a single confusion color, but when tested with the lantern they showed very decided defect of color perception, and vice versa, cases have been found where very little trouble was found in naming the lights, but where the worsted test showed marked defect. The only safe plan is to have a test with both the lantern and the worsteds, and if this is done thoroughly no dangerous cases will escape detection, and all will have been done that can properly be required.

The following cut will show the lantern in its present form:



The lantern is made of japanned tin, about a foot high, and carries two revolving discs of brass, A and B, on the front. The upper disc A is arranged as a diaphragm and has a series of holes drilled in it, the smallest being 5/64 of an inch, or 2 mm., in diameter, which at twenty feet would subtend a visual angle of one minute, and would correspond to the apparent size of an ordinary switch light lens when seen at a distance of 1500 feet, the other holes correspond to the width of the different parts of the test-card letters. At C, on both the upper and lower disc, there is a shield, which prevents the person being examined from seeing the holes in the discs behind the shields, in which translucent letters for the upper disc and numbers for the lower disc are placed. These letters and numbers are lighted by the lantern in such a way that the examiner can see them and note the size of the opening, or the color of the glass shown, in making a record of the name given to it by the person examined. The lower disc has eleven colored glasses and one vacant space. The colors are: four reds of different shades and intensities, made by combining two shades of red glass with London smoke glass, ee greens, two yellows, and a blue, these colors, corre-nding to those in use on the eastern division of the Y., N. H. & H. R. R., where they have adopted red danger, green for safety, yellow for the distant sig-, and blue for the car repairers and the spacing sig-. The light from the lamp shines through the glass ced in front of the center of the lantern, and by revolv- the lower disc a series of colors can be shown which person being examined should name as shown. The tern should be placed twenty feet from the person mined, and on a level with his head.

am now making an improvement on this lantern, in ch the lower disc will have the colored glasses, the per disc the modifying glasses, and a separate dia-agm with holes will be introduced between the discs change the size of the area of light; this arrangement allow a much greater number of changes of color and ensity than can be made with the present lantern.

For testing the hearing, the most convenient method, ough crude, is to have the person to be tested stand a distance of twenty feet, with one side toward the miner, and with eyes closed, he will then repeat aloud words spoken by the examiner, keeping the farther closed with the finger. It is an advantage to have additional test with something which gives a sharper e, like the tick of a watch, but watches vary so much their tick that it will be better to use some form of umeter, like the ratchet acoumeter devised by Sharp mith, Chicago, for use on the C., B. & Q. R. R.; these inexpensive and seem to give good results.

ppended will be found copies of forms for recording results of these examinations, and for a certificate of mination, now in use on the eastern district of the Y., N. H. & H. R. R.

NEW YORK, NEW HAVEN AND HARTFORD RAILROAD CO.

. . . . Division.

RECORD OF EXAMINATION OF SIGHT, COLOR SENSE AND HEARING.

Name.	Occupation.	Date.

SIGHT.

Acuteness of Vision, without Glasses.	Right Eye.	Left Eye.	Both Eyes Open.
ance in feet, at which standard test-types are read			
llest line of standard test-type read correctly			

Reading Test, both Eyes Open.	Without Glasses.	With Glasses.
of reading test-type read correctly		
ten train orders read correctly (Yes or no) . .		

Position Signal Test, without glasses.	Right Eye.	Left Eye.	Both Eyes Open.
ance in feet, at which card with semaphore arms can be read correctly			

COLOR SENSE.

est-Skein bmitted.	Number on the Skeins in Standard Holmgren Color Set, selected as similar to Test-Skeins.
reen.	
ose . .	

Note whether the selection is prompt or hesitating.

	Size of opening used.	Number of color shown	1	2	3	4	5	6
Standard Testing Lantern.	Number.	Name given.						
		Number of color shown.	7	8	9	10	11	12
		Name given.						

HEARING.

Number of feet at which numbers or words can be repeated correctly when spoken in a conversational tone	Right Ear.	Left Ear.
Number of feet at which ratchet of acoumeter can be heard . . .	Right Ear.	Left Ear.

Remarks . . . .

. . . . Examiner.

THE NEW YORK, NEW HAVEN AND HARTFORD RAILROAD COMPANY.

This certifies that I have this day carefully tested the Acuteness of Vision and Color Perception of. . . . ., whose signature is attached hereto, and find that he is not disqualified by color blindness or other defective sight from employment where he is required to distinguish form and color of signals.

. . . . Examiner.

. . . . 18. . . .

Date of Examination.

. . . .

Signature of Party Examined.

DISCUSSION.

Dr. J. E. Minney, Topeka, Kan.—The railroad with which I am connected has the largest mileage of any in the world, perhaps, and we have found that the earlier examinations of the men were very loosely conducted. One thing spoken of by Dr. Williams has bothered us all the way along, that is, the question of putting aside the old employee. I asked these questions of the superintendent: Shall I take into consideration the experience, habits of life and intelligence of the old employee? He said, "no." Nevertheless, we did, and I think we are justified in doing so. I think the crucial examination should be made in the start, before the man is employed, and that is the time to determine whether the man is perfect. If we let them pass with defects, we make a very serious mistake, especially if they are in the line of promotion.

We do not use all the tests the Doctor speaks of, but in addition to the yarn test we use what we consider practical ones, such as calling attention to different objects and signs along the street, the color of a dress or the hats worn by women passing by, etc., and by that means I have more than once detected errors which I failed to detect by other means. I have tried the plan of putting a +2 D on a young man and testing his vision. If he reads 20/20 he should be excluded, for a young man who has that degree of hypermetropia will in course of time be excluded from promotion.

As for colors of the lights, we have in the main excluded all but the red, green and blue.

Dr. H. Gifford, Omaha, Neb.—If there is any way possible, we ought to insist on a thorough ophthalmoscopic examination of all these employees, for we all understand how progressive conditions may exist which may lead to serious difficulties in a short time, and which pass unobserved unless such an examination be made.

The Doctor's method of preventing the memorizing of letters is a very good one, but there is another probably equally as good and less expensive, that is to use pieces of pasteboard with one or more holes which allow only one letter to be seen at a time.

In regard to the use of the +2 D lens, that does not exclude all the bad hypermetropes, for some may have three and four dioptrics of hypermetropia and yet they will not see 20/20 when we put on a +2 D.

We ought not only to examine the fundus of the eye, but to examine the lids. Every now and then I meet with a case of trachoma which has passed the ordinary tests, and these cases are liable to keratitis, which will interfere with the ability to work, or if work is attempted during the keratitis, may lead to serious accidents.

Dr. D. S. Reynolds, Louisville, Ky.—Any test of color perception limited to a single method made in the open daylight alone, or in the dark chamber alone, should not be held to be conclusive in itself. There are many persons who meet all the requirements of the Holmgren test in daylight, who could not in the dark chamber. The test should be made both in daylight and in the dark room, and by at least two methods, the Holmgren or the Donder's, and the lantern test, or its equivalent in form. The colored glass discs placed before a luminous point at six meters is the usual form of lantern test I employ.

Dr. Frank Allport, Chicago.—I wish to protest a little against the method of examination which Dr. Williams advocates. I see no reason why we should minimize the importance of having these examinations of railroad employees made by ophthalmologists. It may be difficult to so arrange it, and yet I can not see why it is not possible for ophthalmologists to make these examinations just as general railroad surgeons make the general physical examination. If it is necessary to have a surgeon examine the heart, lungs, etc., there is no reason why the eyes and ears should be relegated to an examination by a railroad employee. The eyes and ears are certainly as important in this work. I have examined many employees who have passed these examinations given by chiefs of departments, and I have found just about the same average of color blindness that we should expect to find in men in general—men who have not had any examination whatever. On one railroad, some years ago, I found an average of 3 or 4 per cent. of color blindness among the men who had been passed by division superintendents and who had received instructions from physicians supposed to understand the importance of detecting color blindness. We should hesitate in giving sanction to the examination of railroad men by anyone except the ophthalmic surgeon, and I certainly feel that the method of testing the color sense employed by Dr. Minney, by having them name the color of dress goods, is turning us back a good many years. There are many other things to be taken into consideration, and there should be an examination by the ophthalmoscope and the perimeter in order to determine whether the individual is capable and worthy of being intrusted with the lives of the people.

Dr. C. E. Norton, Lewiston, Me.—Some of the railroad companies have a rule, which, I think, is a wrong one, that no fireman or engineer on their roads can wear spectacles. I can illustrate my point by the following case: A man came to my office having hypermetropia, but with a vision in each eye greater than 20/30. He was employed on one of these railroads and was complaining of asthenopia. I informed him that he needed spectacles and he replied that their use would mean his discharge from the road, and so he is to-day working with his asthenopia and imperfect vision, and his service is attended with greater danger to the public and to the road than it would be if he were wearing the proper glasses, as such glasses would improve his vision to 20/20. We, as ophthalmologists, have the opportunity to educate those who are in control of the railroad systems, and it seems to me that if men whose vision is poor, but which could be improved by glasses, are continued in their services, we should insist on their wearing them.

Dr. A. B. Randall, Philadelphia—There is one exceedingly important point I have not heard mentioned, and which is a part of the system employed by Dr. Thomas on the Pennsylvania Railroad. He always examines the men in a group of a dozen, so that a jury of the other employees sits upon the others. There is considerable objection among the men, to what they consider ultra-scientific tests, and they are apt to feel that they have not been fairly treated by such; but if the other men looking on see a man matching his green with reds, they may be in sympathy with him, but they are very sure they do not want that man running a train either before or behind them. Thus they are all enlisted in support of the examinations.

Dr. Geo. F. Keiper, Lafayette, Ind.—There seems to be a prejudice against the wearing of glasses by train employees, but we may take this to be true, that a man with glasses whose vision is 20/20 is entitled to just as much consideration and to promotion as a man whose vision is 20/20 without glasses.

Dr. Edward Jackson, Denver, Colo.—Among the dangers we have to guard against is one which is becoming a danger of great importance, namely, the basing of undue confidence on insufficient tests. Perhaps the most serious defects are not the congenital defects; the central scotoma for color may be more dangerous than congenital color blindness, though less common. I have also seen a railroad engineer with absolute scotoma from hyaloid hemorrhage, on duty at the time he was under my care. Defects of that sort are liable to arise, after an examination which has shown the man's vision to be perfect.

While the placing of examinations in the hands of the ophthalmologists would guard against certain dangers, I believe that any system will be to an extent inefficient unless the men themselves are encouraged to report any defect of vision which may occur. They should know that they will not be turned adrift on account of it. They should be under such regulations that they would be ready to be given a different position, or laid off for a time, whenever the vision becomes defective.

Dr. C. H. Williams, Boston—Several important points have been brought out in this discussion. The old employee with a good record, ought to be treated with consideration, and on those roads with which I have been connected they provide for such men, so far as possible, by giving them other work, where they will not have to use signals, and where their defects will not be dangerous. In regard to having all these examinations made by trained ophthalmologists, no doubt that would be the best thing if it could be done, especially if it could be done uniformly in accordance with a well-matured plan, but on large railroad systems like the Burlington, where I was medical director for six years, the distances are too great. This system covers more than 7000 miles of track, and a plan was arranged by which the medical examiners, who make the physical examination of the men on the different divisions of the road, also make the tests for vision, color sense and hearing, doubtful cases being referred to an ophthalmologist. On the N. Y., N. H. & H. R. R., these tests are made by employees selected by the management: these men are first tested by an expert to see if their vision, color sense and hearing are normal; they are then instructed by him in the use of materials for making the tests, and the proper filling out of the forms. Their reports on the standard forms are copied at the division headquarters, and are then forwarded to the central office for final approval and file, provision being made for the reference of any doubtful case to an expert ophthalmologist. It seems to me that tests made in this way will give better and more uniform results than when intrusted to a number of different ophthalmologists, each of whom may examine the men in his own way, and often with material not so well suited to the purpose as that furnished by the company.

We need to have this whole matter of the standards, and methods of examination put in better and more uniform shape, and a committee of your Association are now considering this question.

LIPEMIA IN DIABETES MELLITUS.*

BY THOMAS B. FUTCHER, M.B.

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BALTIMORE, MD.

A fatty condition of the blood has repeatedly been observed post-mortem in cases of diabetes mellitus. Less frequently, however, has the observation been made during life, and the probability that lipemia is a more common occurrence during the course of a case of diabetes than is generally supposed has led me to report the following case:

G. K., a male, aged 31 years, a brakeman by occupation, was admitted to Dr. Osler's service in the Johns Hopkins Hospital, April 10, 1899, complaining of aching pain in the back and legs, and loss of strength.

Family History.—Unimportant, with the exception that a sister and maternal uncle died of tuberculosis. No family history of diabetes.

Personal History.—The patient had whooping-cough and measles when a child and scarlet fever when 8 years of age. He states that he has had malaria every spring and fall for the past ten years. The last attack was one year ago. As a brakeman, he had been subjected to great exposure. He was badly frightened, but not injured, eight years ago, by falling from a train and being dragged a considerable distance. Two years ago he fell from a twelve-foot trestle, striking his back; he was unconscious for a short time. Three years ago he was struck while standing between two moving trains but was not seriously injured. He had drunk beer since boyhood and whisky in excess since he was 17 years of age. He smokes and chews tobacco. Four years ago he contracted gonorrhea. There was no luetic history. Since 6 year of age he had had a purulent discharge from his left ear. He had always been a hearty eater, eating large quantities of bread at his meals.

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*Presented to the Section on Practice of Medicine, at the Fiftiet Annual Meeting of the American Medical Association, held at Columbu Ohio, June 6-9, 1899.

Present Illness.—About the middle of February, 1899, the patient noticed that his thirst was becoming excessive and that he was drinking large quantities of water. He felt weak and suffered from headaches and occasional cramps in his legs. Vomiting after his meals was a frequent symptom. He lost weight rapidly. About February 15, he weighed 150 pounds; on April 3 his weight was reduced to 118 pounds. During February he had to void his urine on an average of three times during the night. At the time of admission he was forced to urinate about every three-quarters of an hour during the night and every half hour during the day. On one occasion he measured his urine for twenty-four hours and found the amount to be two gallons, or about 8 litres. His sexual appetite and power have markedly diminished.

Physical Examination on Admission.—The patient is a medium-sized, somewhat emaciated man; his cheeks are red and venules injected; his lips and mucous membranes of a good color; his tongue slightly coated. Both pupils are slightly dilated, the left being larger than the right; they react to light and to accommodation. The skin of the whole body is dry, harsh and desquamating. There is a slight purulent discharge from the left ear.

The pulse is of good volume and tension; regular in force and rhythm; vessel wall slightly thickened; 80 beats to the minute.

The thorax is well-formed, and the lungs are clear hroughout on percussion and ausculation.

The point of maximum cardiac impulse is neither isible nor palpable. The heart-sounds are best heard in he fifth interspace 6.75 cm. from the mid-sternal line. The cardiac dulness is normal in extent. The heart-sounds are clear at the apex and base, and of normal elative intensity. The areas of relative and absolute ardiac dulness is normal; border of liver not palpable.

The abdomen is slightly retracted but symmetrical. There is no abdominal tenderness, nor is there anything bnormal to be felt in the region of the pancreas. The pleen is not palpable.

The genitalia are normal on inspection; no scar. The uperficial lymphatic glands are slightly enlarged; the pitrochlears are just palpable.

The patellar tendon reflex is still present and active n both sides.

The urine, on admission, was very pale in color, clear, nd without macroscopic sediment; acid in reaction; p. gr., 1038; no special odor. There was no albumin. Sugar was present, the polariscope showing 5 per cent. The urine gave Gerhardt's diacetic acid and the acetone eactions, but no B-oxybutyric acid could be demonstrated. On microscopic examination, no casts were ound, but there were numerous squamous epithelial ells.

The patient was placed on the hospital mixed diet on April 11, 12 and 13, the excretion of sugar on these days eing 142.5, 290 and 235 grams respectively. On April 4 a modified standard von Noorden diet, which contained no carbohydrates, was started. There was a udden drop in the sugar elimination from 235 to 117 rams in the twenty-four hours. On the succeeding ays the amount of sugar gradually diminished and from a. m. on April 18 to 7 a. m. on April 19, the day on hich the patient left the hospital, only 29.7 grams were xcreted, the quantity of urine voided being 1800 c.c. cetone and diacetic acid were present in the urine and were practically constantly found during his stay of nine days in the hospital. The largest amount of urine was eliminated on April 12 to 13, when the quantity reached 4680 c.c.

The changes in the blood constituted the chief features of interest in this case. On April 13, a microscopic examination of the fresh blood showed enormous numbers of refractile granules which varied considerably in size, the largest being about 2 μ in diameter and the smallest about 0.5 μ. The granules showed very active Brownian movement. The resemblance of these bodies to micro-organisms was so striking that the clinical clerk in charge of the case reported that the blood was swarming with bacteria. My impression at the time was that these granules were nothing more than a marked increase in the Müller's hemokonien, or blood-dust granules, which are present in varying numbers in normal blood. Dr. Osler, who subsequently saw a specimen of the fresh blood, expressed the opinion that the granules were probably fat-particles, and suggested that some of the blood-serum be obtained for examination.

On April 14 a small amount of the patient's blood was centrifugalized by means of the hematokrit, and the serum thus obtained was compared with that from a non-diabetic patient, separated in the same way. By reflected light and by comparing the two tubes over a black background, the diabetic serum was found to be very markedly turbid and milky in appearance, whereas that from the non-diabetic case was clear and transparent. The serum from the diabetic patient, when examined microscopically, showed enormous numbers of granules similar to those found in the fresh specimen of blood. The first drop of serum blown out for examination contained them in by far the largest numbers, showing that they were very light as compared with the red blood-cells which had been driven by the centrifugal force to the distal end of the capillary tube. Some of the granules seemed to take on a slight black color with osmic acid.

On April 15, 30 c.c. of blood were withdrawn from the right median cephalic vein by means of a blood-culture syringe. The blood was preserved in small test-tubes in order to allow the serum to separate. The latter was extremely opaque throughout, and milky in appearance, and, on standing, a very thin layer of creamy looking fluid about 1 mm. deep accumulated on the surface. Microscopic examination of the serum showed that it contained enormous numbers of refractile droplets similar in size and appearance to those observed in the fresh-blood specimen. There was a tendency for the droplets and granules to clump together into fairly large masses. The blood-serum, obtained in a similar manner, from a second case of diabetes in whose blood there were but few granules, and also that from a non-diabetic patient, was quite clear and transparent.

Some of the milky serum from the diabetic patient was shaken up with ether, with the result that the turbidity was only in part cleared up. While examining a specimen of the serum under the microscope ether was allowed to flow under the cover-slip and to ultimately mix with the serum. Only a portion of the droplets were dissolved, the remainder being unaffected by the ether. A 1-per cent. solution of osmic acid stained a certain number of the droplets a faint blackish tint. Some of the droplets gave the brick-red reaction for fat with Sudan III; many of them, however, were simply stained yellow. Strong acetic acid solution had no effect on the granules, indicating strongly that they were not the granules of polymorphonuclear or eosinophilic leucocytes.

From these microchemical tests, it would appear that the turbidity of the urine was only in part due to the presence of ordinary fat. It is possible that these granules were in part made of albuminous particles. Virchow (*Gesammelte, Abhandlungen,* I, 1856, p. 138) refers to a case recorded by Buchanan in which the blood contained particles of an albuminous nature. He cites personal observations in which he believed that the granules present in the blood serum were minute fat droplets surrounded by an albuminous coating. The latter obscured the optical characteristics of the fat droplets and prevented them from being dissolved by the usual fat solvents.

Beyond the marked diminution in the amount of sugar in the urine, the patient's general condition was not materially improved by his stay in the hospital. He has been kept under observation in the Dispensary and has taken a non-carbohydrate diet since his discharge.

On May 15 he returned looking much better. He had gained ten pounds in weight, and the urine was entirely free from sugar. He returned again on May 18. The urine contained no sugar. A microscopic examination of the fresh blood revealed the fact that the minute droplets had almost entirely disappeared and no more granules were found than could be accounted for by the hemokonien particles of Müller, present in any normal blood. From the median cephalic vein 30 c.c. of blood were removed. The serum, on being allowed to separate in test-tubes, was almost perfectly clear and transparent and was in striking contrast to that obtained on April 15, while the patient was in the hospital. Microscopic examination of the blood-serum showed extremely few, fine, actively dancing granules.

The blood normally contains minute quantities of fat, which is present in the form of neutral fats, cholesterin and lecithin. The mean amount of fat in the blood of men, according to Becquerel and Rodier[1], is 1.6 parts per 1000 of blood, the maximum being 3.25, and the minimum 1.00. It exists in the form of a very fine emulsion, and is not sufficient to cause any turbidity of the blood-serum. The percentage of fat may be markedly increased, giving rise to lipemia, in a number of physiologic and pathologic conditions. The blood of infants at the breast, and of suckling animals, such as mice and rats, contains a much higher percentage of fats and the serum is distinctly turbid. There is also a temporary increase after the ingestion of a meal rich in fats. Neumeister[2] states that the blood of an animal fed on large quantities of fat may reach 1 per cent., whereas, in the fasting stage it is only a mere fraction of this. Individuals with marked obesity occasionally show lipemia. The condition is sometimes present in pregnant women, and occurs also in chronic alcoholics. It is quite common in fractures of the long bones with injury of the yellow marrow and also in lacerations of the blood-vessels contained in the fatty subcutaneous tissue. According to Hammarsten[3], lipemia has also been observed in diseases of the liver, Bright's disease, tuberculosis, malaria and cholera. It has repeatedly been observed in phosphorus-poisoning, in which, according to Puppe, the fat is derived in part from the degeneration of the various organs and also as a result of a fatty degeneration of the elements of the blood and of the vessel walls.

What interests us most, however, is the association of lipemia with diabetes mellitus. This association is by no means a recent observation. According to Naunyn[4], it was noted as early as 1799, by Mariet of Edinburgh, who described the blood as having a characteristic grayish color. Naunyn states that the separated blood-serum of diabetic patients who have lipemia is opaque and of a whitish-gray color, like chyle. The turbidity, as in the case of chyle, is caused by the presence of fat in the finest possible emulsion.

Even with the highest magnifying powers the fat granules appear as minute dust particles. That the turbidity is due to fat is easy to demonstrate; by shaking the blood-serum with ether the fat is dissolved by the latter and the blood-serum becomes clear.

The amount of fat in the lipemia of diabetes may reach considerable proportions. Thus Babington[5] found 30, Traill[6] 45, and Lecanu 117 parts in 1000 parts of blood. In a dog which developed spontaneous diabetes with necrosis of the pancreas, D. Gerhardt, an assistant of Naunyn's, found in 1000 parts of blood 123 parts of fat. Gamgee[7], who observed several cases of lipemia in diabetes, records one case in which, during life 12.76 and at post-mortem 13.35 parts of fat were contained in 1000 of blood. The patient died in coma. The percentage of fat, however, may not be nearly so high and yet the serum have a chylous appearance. Thus Naunyn's case, No. 59, that died in coma had only 5.5 parts *pro mille* of blood. Some observers have persistently failed to find fat droplets in the blood of diabetics. Williamson makes the following statement: "During life I have examined drops of the blood from numerous diabetic patients microscopically, but have never met with any indication of fat globules in the serum; also the addition of perosmic acid has not revealed the presence of any fat globules. Frerichs has obtained negative results."

Various explanations have been advanced to account for the lipemia of diabetes. Hoppe-Seyler held that it was merely a physiologic process, and that the fat had the chyle for its origin. Owing to the enormous appetites of diabetics, the process of digestion is practically continuous and there is an overproduction of chyle much of which reaches the circulating blood. This seems a very plausible explanation, and appears to be supported by the fact that lipemia is common in infants at the breast and in suckling mice, rats, etc., in which the digestive process is almost continuous. Ebstein, however, was one of the first to point out that this explanation is not sufficient to explain all cases. In Naunyn's case which showed only 5.5 parts of fat *pro mille* of blood, no food had been ingested for twenty-four hours previous to the withdrawal of the blood, and very little had been taken for several days. In the case of spontaneous diabetes in a dog, in which Gerhardt found that the blood contained 123 parts of fat, *pro mille,* no food had been taken for nearly twenty-four hours. It would appear then that lipemia in diabetes must be considered, in certain instances, a pathologic and not a physiologic process. Ebstein[8] is of the opinion that in some diabetic cases a very considerable part of the fat in the blood results from degenerative processes going on in various tissues of the body, and probably in the blood itself. Naunyn is also of opinion that the fat is not always the result of increased fat ingestion but also a consequence of a disturbed or defective oxidation of the tissues. He states that, in his opinion, lipemia occurs only in the severest forms of diabetes and that he has observed it only in cases in which large amounts of sugar were being excreted.

One naturally is led to ask: Is an excess of fat in the blood of diabetic patients of any pathologic signifiance? A number of good observers are of the opinion aat it is. The literature contains reports of several atal cases in which fat emboli plugged the vessels of arious organs, chiefly those of the brain, lungs and idneys. In some cases these fat emboli have been ound in the cerebral and pulmonary vessels of patients whose death was attended by coma. Saunders and Iamilton advanced the theory that the respiratory and ervous phenomena of diabetic coma are caused by fat mbolism of the pulmonary and cerebral capillaries. 'hey based their theory on the post-mortem findings a one case of diabetic coma, in which the blood was ery fatty and fat emboli were found in the vessels of ae lungs and kidneys. The blocking of the vessels of ae brain and lungs by fat emboli in diabetic coma has een a comparatively frequent observation at autopsy. Iaunyn thinks that the fat particles are much too fine be the cause of the fat emboli. Embolism could be xplained, however, by the agglutination, as it were, of everal fat particles giving rise to a clump of considerble size, such as one sees on examination of a fresh pecimen of lipemic blood.

It is an interesting fact that Küssmaul's[9] first case of iabetic coma, in which he first described the symptom f air-hunger, also had lipemia. The lungs presented bout twenty hemorrhagic infarcts, varying in dimenions, the largest being about the size of a hazel-nut. The lood collected from the ventricles of the heart, showed n the following day a milky layer on its surface. That rom the ventricles also showed a supernatant milky ayer. After incising the lower lobe of the left lung a ilky serum could be pressed out of one of the vessels. 'he turbidity of the serum cleared up on shaking it ith ether, showing that the milkiness was due to ae presence of fat. On microscopic examination the ilky layer of the blood-serum showed fat particles arying in size from minute specks to that of starch ranules. There was present, in addition, a fine detrius which had the optical characteristics of albumin ranules. This detritus was insoluble in ether, and Cüssmaul was of the opinion that the granules were of n albuminous character. Concerning the small inarcts, Küssmaul remarks: "Perhaps we might attribte it to the lipemia and fat embolism, the numerous mall lung infarcts, at least another source of embolism as not to be discovered. In no case could the fearful erminal dyspnea have originated in these small inarcts, the greater part of which were of far older date." Ve thus see that the theory that the dyspnea of diabetic oma was caused by fat embolism, had not escaped the otice of Küssmaul as early as 1874, although he merely eferred to it and dismissed it from his mind.

The general consensus of opinion now is that the fat mboli in diabetes have nothing whatever to do with he causation of diabetic coma. It is almost universally ccepted that the coma is the result of an auto-intoxicaion due to the circulation in the blood of B-oxybutyric cid and the allied substances, diacetic acid and acetone.

The subject of fat embolism and fat thrombosis in iabetes has recently received the attention of Ebstein[10], who reports a case of diabetes where the patient died in oma. The autopsy showed lipemia and fat emboli in he vessels of the lungs, kidneys and brain. Ebstein as inclined to the opinion that the lipemia in this case as due to degenerative changes in the organs, such as he liver and kidneys, and also in part to degeneration f the leucocytes of the blood. The blocking of the vesels of the kidneys was, in his opinion, a fat thrombosis ather than a fat embolism. He also mentions the possibility that the necrosis of the epithelial cells of the various organs in diabetes could be produced by fatty embolism of the vessels supplying the involved parts. Beneke[10] has shown that the fat in the mildest cases of fat embolism undergoes subsequent resorption. According to Lipace Hanriot this is accomplished as a result of a fermentative process. Ebstein thinks that there is little hope of removing the lipemic condition of the blood or its consequences in those cases where the lipemia results from degenerative processes in the organs and blood itself. Where the lipemia is a result of the amount and nature of the food ingested, the condition can be cleared up by proper dieting.

BIBLIOGRAPHY.

1. **Williamson, R. T.: Diabetes Mellitus and its Treatment, 1898, p. 189.**
2. Neumeister: Lehrbuch der physiologische chemie, ii. Jena, 1895, S. 168.
3. **Hammarsten: Ibid, S. 153.**
4. **Naunyn: Der Diabetes Mellitus, Wien, 1898. S. 239.**
5. Babington after Nasse: Untersuchungen zur Physiologie und Pathologie. S. 300.
6. **Traill: Edinburgh Med. and Surg. Jour. April, 1823.**
7. **Gamgee: Physiological Chemistry of the Animal Body. London. 1880. Vol. i, pp. 170–172.**
8. **Ebstein: Deutsch. Arch. für Klinische Medicin, Bd. xxviii, 1881. S. 200.**
9. **Küssmaul: Deutsch. Archiv. f. Kllnische Medicin, Bd. xiv, 1874. S. 1.**
10. **Ebstein: Virchow's Archiv., 1899. Bd. clv., Heft 3, S, 571.**

THE SURGICAL SIGNIFICANCE OF CERTAIN ANATOMIC, PHYSIOLOGIC AND PATHOLOGIC PECULIARITIES OF THE PERITONEUM.*

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At this time, when the attention of the medical profession is so exclusively engaged in the perfection and multiplication of methods and means for the doing of aseptic and antiseptic surgery, we are prone to neglect the study and consideration of the less attractive factors of successful work; and, perhaps, overenthused by the many triumphs of modern surgery, we may at times forget that Nature is still the Great Restorer, and that only from a study of her ways and means of combating disease can we learn how best to assist her.

The special and urgent need of pursuing these less popular lines of investigation must be apparent, however, to those who take the time to study and determine the causes of our present mortality and unsatisfactory results in the intraperitoneal surgery; for here our deaths—barring those from malignant disease—are commonly due to the presence of infection in a region where antiseptics can not be employed, and our incomplete recoveries are dependent on causes that brilliant operative procedures alone can not prevent.

I believe most experienced operators recognize that special physiologic and pathologic conditions modify our surgery in this region, and will agree that our further progress is now opposed by obstacles that can only be removed by a clearer conception of the rôle played by the peritoneum in health and disease. Until the physiologist and pathologist shall furnish us with a perfect conception, I believe it to be our duty as operators to keep constantly in mind at least an outline of such anatomic, physiologic and pathologic peculiarities of this tissue as are established by experimental data, and from our clinical observations endeavor to better interpret their surgical significance. The outline that I shall present for your consideration is neither novel nor complete, but I trust that it may prove helpful in emphasizing the practical surgical bearing of some of these peculiarities.

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From the surgeon's standpoint, the peritoneum may be regarded as an immense lymph-sac, affording the means of numberless stomata, or minute openings between the endothelial cells and by the lymph-spaces and capillaries, the freest and most direct communication with the general lymphatic system and blood-currents. This membrane has two functions of the greatest physiologic importance and surgical interest: the one to grant mobility to the contained vital organs; the other to afford them protection from disease and injury. In the perfect preservation of the first function and the judicious utilization of the second lie the secrets of successful intraperitoneal surgery. And from the very beginning of our deliberations upon treatment — whether operative or non-operative — two thoughts should be kept prominently in mind: 1. Free movement of the pelvic and abdominal viscera is absolutely essential to the healthful performance of their normal functions, and any conception of disease or injury that overlooks or underestimates this physiologic necessity will surely lead to disastrous conclusions. 2. The very existence of pelvic and abdominal surgery, with all its possibilities for the saving of life and suffering, depends less on ordinary surgical knowledge and skill, than on extraordinary inherent powers of the peritoneum to repair injuries, oppose diseases, and overcome infection. The methods by which the peritoneum exercises its protective functions are: 1, *exudative* or *reparative*; 2, *absorptive* or *eliminative*; and 3, *phagocytic*. All these may be in operation at the same time or not, as the varying conditions may favor or demand. *The exudative or reparative functions of the peritoneum*, taken alone, do not include the destruction and elimination of pathogenic germs, but simply the repair of injuries and the formation of protective barriers as a defense against the invasion of infection.

When the integrity of the peritoneum is threatened by trauma, exposure, the presence of a foreign body, or the invasion of microbic foes, an exudation of serum occurs at once, and later it may be, plastic lymph is thrown out, which unites the nearby peritoneal surfaces either directly or by organized bands of adhesions, thus forming a more or less perfect protective wall, separating the general peritoneal cavity from the diseased or injured parts.

This sealing up, encapsulating, or walling-off process is described in such interesting detail in all our textbooks, and its uses and advantages have been so fully and favorably discussed and so generally admitted, that at this time I shall only refer to those errors that we may fall into from an overconfidence in this mode of repair.

We should remember that such protection is only an uncertain temporary expedient of nature for the defense, not the restoration of health, which may often prove a valuable supplement, but never a perfect substitute for good surgery.

While it has undoubtedly enabled many a sufferer from a tubal or an appendiceal abscess to survive the non-operative treatment, such confidence in its protective powers is misplaced, and not based on sound reasoning, and is unquestionably responsible for a long list of failures that prompt and complete operative measures might have prevented. It is true that we are often compelled to trust to this mode of repair to protect our patient before our diagnosis is made, or where an operation is impossible or inadvisable, or after an operation is done, to make good the faults or failures of our surgical work; but when we consider that the life and health of our patient is depending on pathologic changes taking place under a rigid or distended abdomen, and therefore unseen, uncontrollable and quite uncertain, and that these changes involve, under the most favorable conditions, the formation of peritoneal adhesions and the imprisonment of devitalized or infective tissue within the abdominal cavity, with all their possible dangers and distresses, immediate and remote, I am sure that the superior advantages of prompt, clean, and complete surgical procedures will by comparison be apparent to the most practical surgeons.

It is well known that any disorganized, cicatricial devitalized, or strangulated tissue or bands of adhesions or blood-clots left within the peritoneal cavity offer weakened spots for the lodgment and multiplication of pyogenic bacteria, and the many evil consequences liable to ensue from peritoneal adhesions are generally admitted, but I am convinced that these factors deserve more consideration in the operating-room than they usually receive, and that in time thoughtful surgeons will rank them as second only to sepsis as causes of distressing and dangerous symptoms. In partial support of this opinion permit me to make a brief quotation from a paper that I read before this Section a year ago: "The stomach and intestines seem to readily adjust themselves to changes in position and crowding produced by large tumors or pregnancy, but any interference with the functions of their muscular coat, impairing, preventing, or reversing normal peristalsis, whether by direct pressure of tumors, the dragging, constricting, or occluding of bands of adhesions or the action of toxic irritants, may be followed by the most serious results.

"Normal peristalsis depends on perfect and regular contractions of the circular and longitudinal fibers of the muscular coats of the intestines, and as no chain is stronger than its weakest link, any band of adhesion that serves to impair the functional activity of any part however small, of this muscular coat, must interfere with normal peristalsis. All pelvic and abdominal surgeons who have studied carefully the many excellent articles on gastroptosis, gastro-enteroptosis, dynamic and adynamic ileus, etc., must be impressed that these conditions are due, not directly to downward displacement of the abdominal viscera but to interference with the normal functional activity of the muscles employed in peristalsis, and that this interference is usually due to the dragging, constricting, or occluding effects of adhesions, or in rare instances to the presence of microbic or other irritants, as lead.

"This view is further corroborated by the well-known fact that the omentum is always quick to attach itself to any pelvic inflammation, and the contraction and impaired mobility that ensue are likely to be followed by dragging on the colon and stomach, and to be attended by characteristic gastric symptoms.

"A colon heavily loaded with fecal matter may, however, produce the same displacement with similar symptoms. The vomiting accompanying hernia of the omentum is susceptible of the same explanation."

The absorptive and phagocytic powers of the peritoneum are so intimately associated and interdependent that we may consider them together. We will be able to form something like an adequate idea of the enormous capacity of these powers of the peritoneum if we recall

t the peritoneal cavity is by far the largest lymph-
in the body, having a serous surface equal in area to
t of the skin—about 17 or 18 square feet—capable of
orbing or of transuding under propitious influences
roximately two gallons of fluid in one hour; and
nected with the general lymphatic system, and blood-
rents, and through them with the eliminative or-
s of the body, by a short and most direct route.

Phagocytosis, under favorable conditions, begins in
peritoneal cavity and continues actively in the
ph-spaces, capillaries, and lymphatic vessels and
nds, and in the blood-vessels, the activity of this
cess depending largely on the rapidity with which
absorptive powers bring the pathogenic micro-organ-
s into proximity to those cells possessing phagocytic
ers. The particular route taken by this absorbed
d is still under discussion, but recent investigations
d to prove that from the lymph-spaces of the perito-
m it passes rapidly through the lymph-capillaries to
retrosternal and mediastinal lymphatic glands and
nce to the general lymphatic circulation or blood-
rent. It is worthy of special note that pathogenic
teria, in making their exit from the peritoneal cav-
by this path, not only meet the greatest number of
ir natural antagonists en route, but, should they
vive, quickly find their way to the kidneys, and mu-
s membrane of the intestinal canal, which are known
be the chief excretory organs by which pathogenic
robes are eliminated from the system. In this way
peritoneum effects the removal of fluids and all
ll particles of toxic or irritating extraneous matter,
le the larger foreign bodies are left to the less cer-
n process of encapsulation. In health, when these
tective functions are dormant, the balance between
inflow and outflow is such as to merely moisten the
itoneal surfaces, and permit free movement of the
tained organs without friction; but when infection
present and fatal peritonitis or septicemia threatens
patient, the enormous exudative or absorptive pow-
of the peritoneum may be called into requisition,
, aided by favorable conditions, may overcome an
ection that the most consummate surgical skill could
reach or successfully oppose. Regarding the local
general conditions that influence these protective
eliminative powers, recent experimental investiga-
ns as well as clinical experience tend to confirm the
owing conclusions: 1. Lessened blood-pressure en-
rages absorption and consequently favors phagocy-
s. 2. A normal heart and healthy excretory organs
able of temporary excessive functional activity are
orable factors in the elimination of pathogenic germs.
The smaller the quantity, the less the virulence, and
more general the distribution of the pathogenic bac-
a, the more likely the peritoneum is to dispose of
m. 4. Any *locus minoris resistentia,* as an uncov-
l wound, bruised, devitalized or strangulated tissue,
any infected blood-clots, debris, particles of lymph,
, offer inviting sites for the lodgment and multiplica-
n of bacteria, and hence may retard or prevent ab-
ption, or may encourage exudation and the formation
adhesions. 5. The presence of any foreign body, even
aseptic, within the peritoneal cavity is always an
tant and a certain producer of adhesions. 6. All
itoneal adhesions retard absorption, first, by provid-
a convenient place for the concealment of pyogenic
teria, and secondly, by interfering with the normal
bility and functional activity of the peritoneum.
Any interference with normal peristalsis, by angula-
n, partial or complete occlusion of the bowel from
constricting bands of adhesions, or otherwise, may result in a most serious complication, and is always detrimental to absorption and elimination of infection. 8. Phagocytosis is vastly more effective when a large area of peritoneal surface is brought into contact with diluted infection, than when a limited area is compelled to oppose a more concentrated infection.

Finally, the foregoing conclusions support the belief that pathogenic germs, regardless of their number and virulence, may always be safely disposed of, provided the surgeon does his part promptly and completely, and is able to secure conditions that are favorable for these natural agencies to exercise their full protective powers.

No experienced operator, impressed with the frequency and fatality of so-called pus cases, can remain unmindful of the importance of securing the co-operation of these natural agencies; but it is never easy to unqualifiedly accept and practice the strange teachings of a new pathology, so long as a modification or imitation of tried methods yields fairly good results. And thus we often find ourselves overinfluenced by the evidence of clinical experience, the dictates of old-time authorities and perhaps the pleas of patients, and led to pay scant attention to the reasoning of the pathologist. Certain it is, we do not always carry to the bedside and operating-room an implicit working faith in these conclusions of the pathologist relating to peritoneal infection. So far as I am able to interpret these conclusions such a faith would lead us to form general ideas of treatment something like those outlined below:

1. Peritonitis is always a surgical disease.

2. The early operation should at all times be the one of choice.

3. Complete surgery promises more than incomplete surgery.

4. The preparatory and after-treatment should include active and effective measures for the reduction of the blood-pressure and increasing the activity of the phagocytic absorptive and eliminative functions, such as restricted diet, active catharsis, diuresis, etc.

5. The small incision, the least possible exposure and handling, complete removal of debris, avoidance of animal ligatures and sutures, perfect repair of peritoneum, thorough flushing and no drainage, are all important factors in securing the co-operation of these natural agencies.

The crucial test of clinical experience may, and probably will, demonstrate that these rules of surgical conduct are not without exceptions, but to my mind they have a sound pathologic basis, and thus far they certainly have proved helpful to me in my practice.

Peritonitis is always of microbic origin, and almost invariably the infection is from a source that can only be removed surgically, as appendicitis or pyosalpinx. Any non-surgical treatment is equivalent to leaving the disease to the unaided reparative efforts of the peritoneum, which, besides the increased immediate risk, always involves peritoneal adhesions, with their evil consequences, and the permanent retention of the original source of the disease, with the ever-present danger of recurrent attacks.

Although the advantages of the early operation are generally admitted, many make exceptions of acute appendicitis and pyosalpinx, through fear of contaminating the general peritoneal cavity with pus known to be exceedingly active and virulent in the early stage; those, however, who have a strong abiding faith in the phagocytic and absorptive powers of the peritoneum, believe that, with favorable conditions provided, it can nearly or quite always safely dispose of such infection, and that, while the incomplete early operation is not free from danger, the complete early operation is less hazardous than delay. In estimating the advantages and disadvantages of operative measures, we should remember that in these, as in all other infected cases, the two dangers most to be dreaded are peritonitis and septicemia.

Fatal post-operative peritonitis occurs when the peritoneum is already incapacitated by a prolonged struggle with infection, or when the strength of the infection is not sufficiently attenuated, or when from unsuspected or unavoidable sources the microbic foe is being constantly reinforced. Fatal post-operative septicemia takes place, even when the phagocytic and absorptive powers of the peritoneum are in full operation, when pre-existing systemic infection has already taxed the general phagocytic and eliminative powers to their full capacity, and they are unable to cope with the extra burden brought them by absorption from the peritoneal cavity.

By the complete, as distinguished from the incomplete, operation is meant the employment of all the means referred to as necessary to secure the most favorable conditions for the peritoneum to perform its phagocytic and absorptive functions.

Any accidental or intentional, partial or total, neglect or omission in supplying these conditions constitutes (in this sense) an incomplete operation. For example, any but the most thorough and prolonged flushing, that shall not only cleanse the abdominal cavity, but shall evenly distribute any diluted infection that may still remain, over the whole surface of the peritoneum, is incomplete. All operations for appendicitis or pyosalpinx that do not include the removal of all infected tissue and the breaking up of all adhesions, are incomplete. The employment of so good a culture-medium as catgut in wounds where pyogenic bacteria are known to be present, is to my mind inconsistent, and I believe it much safer to trust to the encapsulation of fine sterile silk sutures and ligatures. The use of the drainage-tube means a foreign body in the peritoneal cavity, a producer of adhesions with a certain infection at one end, and a probable infection at the other, connected by a canal with walls of devitalized tissue, and is therefore another and common instance of incompleteness. In short, the complete operation, perfected, is the ideal one from the standpoint of a pathologist, and such a one as those who have an abiding faith in the teachings of pathology will strive to approach, even though unusual obstacles and complications may often render its perfect attainment difficult or impossible.

Time will not permit us to dwell longer upon this subject, nor is it necessary to the accomplishment of the main object of this paper, which is not to propose or support hard and fast rules of surgery, but rather to strengthen as far as may be, the belief of workers in this field, in the doctrine that the teachings of pathology here, as in other parts of the body, must always constitute the foundation of all rational treatment.

BIBLIOGRAPHY.

Clark: American Journal of Obst., 1897.
Grawitz: Charité Annal., 1886.
Treves: Peritonitis. London, 1894.
Halstead: Johns Hopkins Report, 1891.
Muscatello: Virchow's Archiv, 1895.
Pawlowsky: Virchow's Archiv., 1889.
Welch: American Journal Medical Sciences, 1891.
Landois and Starr: Physiology.
Webster: American Gyn. Obst. Journal, 1898.
Lawson Tait: Diseases of Women and Abdominal Surgery.
Senn: Surgical Bacteriology.

DISCUSSION.

Dr. W. B. Dorsett, St. Louis, Mo.—I have been much inte ested in the paper of Dr. Niles, but one of the theories a vanced by him is not borne out by practice. Flushing of t abdomen is a practice that is not in vogue at present, for t reason that it has been proved of doubtful utility. The di tribution of septic material throughout the abdomen is broug about by flushing, forcing septic matter up under the live the stomach and spleen, which becomes absorbed very mu sooner or much more rapidly than if confined to the pelvis, f the reason that nature has placed in the pelvis lymphatics f that purpose, and the lymphatic distribution is greater in t pelvis than it is in any other portion of the abdomen. Ther fore, the theory that is brought out by the pathologist, as eluc dated by the essayist, hardly holds good.

Dr. W. H. Humiston, Cleveland, Ohio—I wish to indorse t paper of Dr. Niles. I was very much interested in it and b lieve it is founded on correct lines. I believe that clinical e perience will fully demonstrate the pathologic side of the que tion. I wish to emphasize Dr. Niles' position with referen to completed operation. The chances for recovery of the patie are so much greater that the operator must neglect nothi that will give him a completed operation. When you are dea ing with pus in the pelvis, use the Trendelenburg position, f with your strips of gauze packing off the upper abdomin cavity, if you should rupture a tubo-ovarian abscess in endea oring to get it out, there is no need of soiling the peritoneu to any great extent; your eyes control the situation; the ome tum and intestines are thoroughly protected by large quant ties of gauze, and you will not contaminate the peritoneal ca ity. A year ago, at Denver, I read a paper on drainage, sayi that I had practically given it up, and that since I had aban oned it my percentage of recoveries was greater. Now, I not drain at all, I have not for some time, and do not consid it necessary. In dealing with pus in the pelvis I now make complete operation, pouring into the abdomen two or mo quarts of warm sterilized salt solution, and the patient mak a beautiful recovery.

Dr. Edwin Ricketts, Cincinnati, Ohio—There is one thi to be considered as having a bearing on this subject, namel adhesions. It has been my fortune to have opened the abdom for other causes than those that have been previously me tioned, in some instances by myself, in others at the hands other operators, and I want to say that too much stress h been laid on this point, and despite all the care that can made use of, when you go into the abdomen and do the so-call ideal operation you will find there are still some adhesion although they may not give any serious trouble. For instanc in a case of appendicitis in which an operation was done accordance with the best rules in surgery, pus was removed, t patient was making an excellent recovery, there was no pa afterward, and yet, on account of an ovarian cyst existing the left side, the abdomen had to be opened again, an examin tion was made, adhesions were found, but the patient had n complained of any trouble of that kind.

There is one point I want to emphasize in reference to ope ing the abdomen, that is, the tendency is to make long incision which are detrimental to the patient. A short incision in dea ing with a case of peritonitis is better.

Dr. W. O. Henry, Omaha, Neb.—I congratulate the Doctor his paper; theoretically, it is perfectly sound. Of cour practically we will find at the present time that theory will n always work. In regard to flushing the abdomen, if you hav for example, a case of appendicitis, a pelvic abscess, or a tub abscess, which has ruptured into the general cavity, so that p is somewhat distributed, the patient will almost always d unless you flush the abdominal cavity. The flushing should done thoroughly. One of the speakers made the remark th flushing had been done away with: that is a mistake. The be men to-day flush the abdomen very thoroughly after operatio in certain conditions. A mistake is made sometimes in flushi just enough to force material up under the liver and into t upper part of the abdominal cavity, and yet not enough clean it out. But in those cases where the pus is already d tributed over the cavity, unless an enormous amount of sali solution, or sterile water is used, the patient will die, no ma ter what you do outside of that. By making a free incisi first on one side, and then on the other side of the abdom and cleaning the pus out with several gallons of sterile solution, you will occasionally save a patient. If you save life out of a hundred you have done something. On the ot hand, take cases of appendicitis or of tubal abscess, in which have opened the peritoneal cavity, you have protected eve thing except the point of operation, and in emptying the scess cavity you spill pus on the surrounding tissue—that be cleaned better without flushing. It would be a mistake that kind of case to flush the general cavity. As to the matter of drainage, I believe, as a rule, we should try to get along without it. If the surgical work is done thoroughly and completely, the cavity thoroughly cleansed, a large proportion of the cases that were formerly drained do not need drainage now.

The point which the Doctor made and which I want to emphasize is that our operations should be so radical and thorough as to get rid of everything that might be the cause of trouble in the pelvic or abdominal cavity when we are operating.

Dr. Frederick Holme Wiggin, New York City—Following up the remarks of the last speaker, in a case of a localized collection of pus in the pelvic cavity, I protect the general cavity before breaking up the adhesions by the use of gauze pads, and when any pus escapes from the tube while it is being taken out, a small quantity of peroxid of hydrogen is used, the parts afterward being washed with saline solution. Having found this to be effective, I do not hesitate, and have not for many years, to close the abdominal wound ordinarily without drainage. In a case of appendicitis with a large circumscribed abscess, I would not care to do this. I would, after evacuating the pus, use peroxid of hydrogen, saline solution and a drain. Usually I believe it to be safer not to employ drainage either by the vagina or through the abdominal wound.

As to the matter of adhesions, it is important that every raw peritoneal surface, so far as possible, should be repaired, and it has been my practice for eight or nine years, to try and prevent the formation of intra-abdominal adhesions, by the use of saline solution, that is, after placing the stitches, to flush out the abdominal cavity, and when the fluid comes away clear, to draw the edges of the wound together, leaving from one to two quarts of saline solution in the general cavity, the idea being that the water, by separating the parts mechanically, gives time for the peritoneal surfaces to get in such condition that they will not agglutinate. During the time I have followed this technic, which is since about 1890, I have had no case of intestinal obstruction that I can recall.

Dr. H. D. Niles, Salt Lake City, Utah, closing the discussion—Of course, in reading only an abstract of my paper in fifteen minutes I could not expect to get the support of the members on so broad a subject as that of which the paper treats, but ample support for the assertions made will be found in the paper, by those who are sufficiently interested in the subject to read it. I can only refer to one or two points in my closing remarks. If there is any one point of importance in the paper it is that which was referred to by the first speaker, I think, namely, of distributing the infection. I am satisfied that if we get the true idea of the duties of the peritoneum in the presence of infection, we will appreciate the point that a diluted infection, distributed over the whole area of the peritoneum and subjected to its phagocytic and absorptive powers, has a vast advantage over a concentrated infection.

In reference to adhesions, every surgeon will agree that those are liable to occur in extensive operations in the peritoneal cavity; yet if we appreciate their importance and do not make light of them, there is very much we can do that we do not do. I have, as most surgeons have, cases that have died undoubtedly from adhesions; others that may not have died from that cause. It is very essential that peristalsis shall be established as soon after an abdominal operation as possible; it all depends on the regular contractions (peristaltic) of the longitudinal and circular fibers of the intestines, and any constricting band which interferes with peristalsis may prevent or reverse the peristaltic action.

THREE YEARS' EXPERIENCE WITH VAGINAL SUTURING OF THE ROUND LIGAMENTS FOR RETROVERSIONS AND FLEXIONS OF THE UTERUS[*].

BY HIRAM N. VINEBERG, M.D.
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It would seem as if there were not anything settled in gynecology. If there was one subject more than another on which it was thought the profession was generally agreed, it was that backward displacement of the uterus was a disease per se, and that it required attention, be it mechanical or surgical. But recently even this subject has formed a bone of contention among gynecologists. After a great deal of thought and energy have been expended on surgical measures for the relief of these malpositions of the uterus, authorities of no mean standing come along and tell us that backward displacement of the uterus is of no consequence, and never of itself gives rise to any disturbances.

The note sounded by one of the most prominent of these authorities[1], and which was considered to be so vital as to be wafted to these shores from a distant land, is to the following effect: Backward displacements of the uterus are of no consequence, excepting to the operator to whom they yield a large and easily earned income; with very few exceptions they never occur but in association with inflammatory affections of the appendages, and it is the latter that give rise to symptoms, and it is they that require attention. It is true, this writer goes on to say, that we possess no reliable means to arrest the progress of these inflammatory affections. but all our efforts are at first to be directed in that direction. Should these fail—as we only too often know they do—the writer promises to tell us what to do in a future communication. As he has neglected to do this thus far he must pardon us if we anticipate his advice. From his leanings and practice we know rather well what it would be: "Do not do anything surgically until all the pelvic organs have become thoroughly disorganized by the inflammatory process; then do a radical operation through the vagina, removing the uterus and adnexa with one fell swoop. In this way you will get rid of the disease and cure (sic?) your patient." This authority has some notable supporters on this side of the ocean who, however, have not as yet communicated their views with such boldness.

In presenting to you an operation for backward displacement of the uterus, I must take it for granted that you do not share the views of the authority I have just quoted, for the limits of this paper will not permit my attempting to combat them. I will assume that you belong to that old-fashioned set of men—to which the writer is not ashamed to claim allegiance—who meet with cases of retroversions and retroflexions of the uterus that *do* of themselves give rise to symptoms, and I will further assume that you are seeking means to rectify the malposition, with the conviction that in doing so you will cure your patients. Any one who has witnessed the almost magical relief he has been able to give a patient by bringing a retroverted or retroflexed uterus into normal position, and keeping it there by pessary or by tampons, will not require much argument to convince him of the entity of the malposition in question. The same individual will also have learned that in some cases a pessary can not be worn, or if it can, it only serves the purpose of a crutch and does not effect a cure.

It is to help us out in this class of cases that we turn to surgery, which has provided us with a number of operations of more or less value. That none of these operations is without some disadvantages must be the excuse for offering you a comparatively new one, but one, however, that has had a fair trial in the hands of the author. In a paper before the American Gynecological Society[2], I stated my reasons for discarding the old operation of vaginal fixation and for casting about in my mind for a new method which would obviate the drawbacks of the former operation, but which at the same time would not do away with any of its advantages.

The advantages are: 1. It is always less objectionable to a woman to have an operation done through the vaginal route than through an outside incision. 2. There is no risk of hernia. 3. It places the uterus in a more normal position, and does not bring it into the abdominal cavity where it does not properly belong. 4. It permits the direct inspection and surgical treatment, if necessary, of the adnexa, which the extraperitoneal suturing of the round ligaments does not. 5. The therapeutic results are more satisfactory than after ventral suspension or after Alexander's operation. The disadvantage is that in case of pregnancy, disturbances during the course of the gestation or at parturition are more likely to occur than after Alexander's operation. This, however, does not hold good for ventral fixation, inasmuch as the risks of dystocia after this operation are equally great if not greater. It occurred to me, therefore, that if I would make use of the round ligaments instead of the fundus uteri to suture to the vaginal wall, I would do away with the feature—the inability of the fundus to rise into the abdomen—that gives rise to disturbances in gestation and labor in the old operation. I was imitating through the vagina what Olshausen[3] had done through the abdomen, and was bringing about a condition, so far as pregnancy was concerned, resembling that which obtained through Alexander's operation in which it was generally conceded that interference with the course of pregnancy or parturition was entirely unknown, or occurred very rarely. The body and fundus of the uterus were merely suspended by the round ligaments, and were left at perfect freedom to enlarge and rise upward in the event of conception.

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[*] Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899

[1] Theodor Landau: "Is Retroflexion of the Uterus a Disease? Medical Record, August 20, 1898.

After an experience of over three years I can confidently assert that my anticipations have been fully realized. In a paper of this length it is not possible to enter into the details of the results obtained. It is my purpose to do this in a more elaborate paper in the near future. For the present I must remain satisfied to deal with my results in a general way. The first operation was performed Feb. 4, 1896. Since then I have performed the operation 44 times. Every one of the 44 patients has recovered from the operation, the recovery being prompt in 41 cases; in 3 cases convalescence was prolonged through the occurrence of a pelvic abscess in 2 cases and an exudate in 1 instance. Even these 3 patients were up and about at the end of three weeks. The ultimate therapeutic results were also good in the 2 cases with the pelvic abcesses; in the one with the pelvic exudate, the patient continued to have some pain, though she was free from pain as long as she remained under observation.

When one reflects that in each instance the peritoneal cavity was entered, the adnexa inspected and frequently treated surgically on conservative principles, the absence of mortality and the very low percentage of morbidity are very gratifying. Some of the operations were done in tenements with anything but sanitary surroundings, others in private houses, and the majority in St. Mark's Hospital. Results of this kind must nullify the criticism frequently made, that the vagina can not be so thoroughly disinfected as the skin of the abdomen. No one could wish to expect any better results through the abdominal route. The bladder was not injured in a single instance. With moderate care there is no reason why this organ should be injured in this operation. For a full description of the technic the writer must refer the reader[4] to the paper already referred to. He may add here that it is not an operation for a novice, as it requires thorough familiarity with the anatomy of the parts and a certain degree of surgical skill. But its therapeutic results are so good that any one who is doing pelvic surgery will be fully repaid by mastering the difficulties inherent to it.

Such satisfaction has the operation given in my hands that were I compelled in a case of retroversion to open the abdomen from above for any reason, I would be tempted to suture the round ligaments to the vaginal walls rather than do a ventral fixation or suspension. I have performed ventral suspension on several occasions, and my results will compare favorably with those of other operators, but in not a single instance have I been as satisfied with the clinical results as with those following the vaginal operation. Almost invariably the patient, after ventral suspension, complained of more or less discomfort for some time afterward. until the adhesion formed with the abdominal wall stretched sufficiently to allow the uterus to drop back into the pelvic cavity. I have been able to observe a great number of cases in which Alexander's operation had been done with an anatomic success. But in a great many of these cases the patients complained for a long time afterward, with a dragging sensation in both groins at the site of the healed incision. The sensation was no doubt due to the round ligaments being put into an exaggerated state of tension. None of these sensations follow a successfully performed vaginal suturing of the round ligaments. The reason for this freedom from symptoms is due to the circumstance that the uterus remains in the pelvic cavity where it properly belongs, and to the fact that the round ligaments are not stretched to an exaggerated degree. So far as the permanent anatomic results are concerned, I can safely assert, after an experience of over three years, that they are equal if not superior to those obtained by the other methods in vogue. I have for several months been able to keep under observation at least 75 per cent. of my cases, and I have so far not met with a single relapse. One of my very earliest cases went safely through a pregnancy and parturition a year after the operation had been done. She got up and was at the wash-tub six days after labor. She has been doing the hardest kind of housework, including washing and scrubbing, ever since. I had an opportunity of examining her a few weeks ago, when I found the uterus in excellent forward position, and the patient entirely free from any pelvic symptoms. Several of my earlier cases are still under observation, a period now of over three years, and in every instance the uterus is in good forward position. I have been told by a colleague that his assistant at the dispensary met with two of my cases in which the uterus was found to be in retroversion. I immediately put myself in correspondence with the assistant, but have not been able to obtain from him the names of the patients, nor the details of the cases. In fact, he did not know what operation had been done on them; whether it was the old operation of vaginal fixation, or my new method of suturing the round ligaments. Until I can obtain satisfactory data I must ignore such information. I state publicly, however, that I will consider it a personal favor to be informed of any failures of my cases that any one may meet. It is only in this way that we can correctly estimate the results of our operative work. But I must be furnished with specific data. The mere statement of a patient that she has had a certain operation done on her, without the confirmation of the operator, is valueless from a scientific standpoint.

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[2] Amer. Jour. Obst., July 18, 1897; Trans. Am. Gyn. Soc., 1897

[3] None of the cases of dystocia was met with in which Olhhausen's method was followed.

[4] Loc. cit.

When one has had some experience with the operation, the smallness of the vagina is no obstacle to its performance. In fact quite a number of my patients were nullipara and a few of them were virgins. The beginner, however, had better select multipara with capacious vaginal canals. I can usually determine beforehand whether a given case of retroversion, with more or less diseased adnexa and adhesions, is suitable for the operation. Still, in every case I have the patient also prepared for an abdominal section, in the event of meeting with such complications as may necessitate going in from above. In only one instance was I compelled to abandon the vaginal route and complete the operation from above. The obstacle consisted in finding very short and rigid round ligaments, so that the fundus uteri could not be delivered through the vaginal incision. That condition —short and infiltrated broad ligaments—must, therefore, be considered a contraindication. Another contraindication would be very markedly diseased and adherent adnexa. Here, however, in the vast majority of cases a radical operation—total extirpation of the pelvic organs —would be called for, which could be completed through the anterior vaginal incision already made. As a matter of fact, when I purposely set out to do a total extirpation through the vagina, I commence with a longitudinal incision in the anterior vaginal wall. This incision affords more room than a circular one, in addition to the opportunity it affords of getting the bladder and with it the ureters well out of harm's way.

Four of my cases have to my knowledge become pregnant. They all went to full term, having perfectly normal gestations and easy labors. I had an opportunity of examining three of the women some time after the puerperium. The uterus in each case had undergone satisfactory involution and was in excellent position.

As a result, therefore, of my experience, I think I may safely assert that vaginal suturing of the round ligaments is indicated in all cases of retroversion and flexion of the uterus that give rise to symptoms, and in which a pessary for one reason or another can not be worn. The child-bearing period is no contraindication to the operation, as the processes of gestation and parturition are in no wise interfered with thereby. It is also indicated in those cases of backward displacement of the uterus associated with diseased and adherent adnexa of a moderate degree. It permits of the conservative surgical treatment of the diseased adnexa within certain limits, as outlined in the paper.

It is contraindicated in cases with shortened and infiltrated broad ligaments. It is also contraindicated when the adnexa are very markedly diseased, forming a conglomerate mass which is universally adherent. It is further contraindicated in cases of backward displacement of the uterus complicated with an ovarian abscess, or with adnexa which are firmly adherent high up in the abdominal cavity.

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It is not often that a man celebrates his silver wedding twice in his life, with a different wife each time, but the *St. Petersburg Med. Woch.* relates this of a Russian merchant who recently died at Belgorod. He is known to have traded at the yearly markets in the Ukraine for over a hundred years, and it is claimed that he was 140 when he died. Two German physicians have recently celebrated the seventieth anniversary of their professional activity, Hochberger of Carlsbad, and Nieberding, in their 97th and 95th year respectively, and Kohlschmitt of Oldenburg looks back over seventy-one years of active professional life.

SHOCK; ITS NATURE, CAUSE AND TREATMENT*.

BY DANIEL T. NELSON, A.M., M.D.
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All living tissues, both vegetable and animal, are sensitive to stimuli whether normal or abnormal. In the animal kingdom, especially in the higher animals, certain cells and tissues are specially adapted to receive and convey impressions or stimuli to other tissues and organs. We call these cells and tissues the nervous system and subdivide for convenience into the cerebrospinal system—the brain and spinal cord—and the sympathetic, or ganglionic system. Both are alike in that they connect every cell of the twenty-six and one-half billion cells, which some one has computed there are in the human body—of which three thousand million are nerve cells—with every other cell, and so every tissue with every other tissue and each organ with every other, and thus all into one harmonious whole, when in health. And in disease or disaster this same wonderful mechanism communicates, like our telegraph and telephone systems, the joys or the misfortunes of each cell and tissue to every other, and they in turn respond, as they may be able, for the good of the whole. And it is only when each and every cell, tissue and organ is receiving its normal stimuli and doing its normal work that there can be perfect health.

Every impression or stimulus applied to any cell or tissue which is less than the normal or exceeds it, tends to derange the whole, at least temporarily, and this derangement, slight or excessive, temporary or permanent, is shock, or at least is of the same nature as shock, and it is always instinctive or automatic, whether it is reported by the way of the cerebrospinal or the sympathetic systems. It is always a reflex act and never under the control of the will, and the reason we have been so long comprehending the nature of shock, for it is more than a century since John Hunter first described it in 1784, is because we do not even now fully understand the anatomy and physiology of the nervous and vascular systems and their relation to each and the other systems of organs.

As there is hardly a place in the body where we can insert the point of the finest needle without wounding a blood-vessel or lymph-channel, so will it with equal certainty impress or stimulate the sensitive tissue of a terminal nerve filament, which will at once convey the impression or stimulus to its cell or center, or through a series of ganglia or centers to a center whence it can be reported to the whole body—if of sufficent importance—as in our newspapers during the late war, all printed the news from Cuba and Manila, but the local murders and divorces were told of only by the local press. Important injuries are quickly reported to all parts of the body and arrangements at once made for relief and repair.

Many pathologic processes are simply the result of increased or decreased physiologic activities, and shock is an example of one of these pathologic processes. It is simply the result of exaggerated or decreased reflex activity affecting important organs or systems of organs. In its slighter manifestations it ordinarily does not receive the name "shock," but the terms sympathy, reflex disturbances, etc., are more commonly applied, as for example: the tears flow from a cinder in the eye, and pain is produced; increased secretion, and perhaps sneezing from a foreign body in the nose; disagreeable sounds, pain, vertigo, and possibly vomiting by a foreign body in the ear; and spasmodic coughing, frequent attempts at vomiting and great distress produced by foreign bodies in the pharynx or larynx; cough and laryngeal disturbances produced by dyspepsia; the irritation, inflammation and possibly destruction of one eye as the result of injury or disease to the other.

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A case of inflammation of the eye is reported as cured immediately by the extraction of a carious tooth, by Schiff of Germany. Prof. Paul F. Eve of Tennessee, suggested the idea of the removal of a carious tooth to Dr. H. F. Campbell of South Carolina, in a case of ophthalmia, and, the operation having been performed, the case was at once cured.

Brown-Séquard, in his lecture on the great sympathetic says: "Sudden death is sometimes produced when ice-cold water is drunk on a warm day; or by a blow on the abdomen, or by the sudden perforation of the stomach or intestine; or a wound of some abdominal viscus (without notable hemorrhage) may produce a sudden and fatal stoppage of the heart's action."

Several cases have been recently reported of a fatal result following a "blow" on the jugular, or below and behind the angle of the jaw, among boxers and prize fighters. Brown-Séquard has also shown by many experiments that a sudden excitation of the abdominal sympathetic nerve often diminishes the movements of the heart and sometimes kills. Individuals frequently become pulseless and often pass into complete syncope from pain in the abdomen, and even death may ensue. Many of you have seen strong hearty men, as well as women, faint from so simple an operation as vaccination. It was also claimed by the same eminent physiologist that the sudden irritation of the branches of the par vagum in the lungs is the cause of death from chloroform in the very rare cases in which the heart's action is stopped before respiration. Death from chloroform is produced in dogs easier than in other animals in this way, namely, by stoppage of the heart's action, but it can not be produced after section of the par vagum.

Extensive burns may also produce a stoppage of the heart's movement. Indeed, he states that deaths from burns are most frequently produced by disease of the cerebral organs; next by diseased thoracic viscera, and lastly, by inflammation of the abdominal viscera. These experiments and statements were made in 1858, before the days of bacteriologic research, and the modern teachings as to the cause of septic inflammations, the order being interference with circulation, stasis, congestion, bacteria active, food for their development, inflammation.

Mr. James Paget, later Sir James Paget, in his lectures on inflammation, in 1850, said that whoever has worked much with microscopes may have observed, as he has on himself, that the eye not employed, becomes inflamed; and he adds that the fact can not be explained except by the supposition that the excited state of the optic nerve of the working eye is transfered or communicated to the nerves of the conjunctiva of the other eye. He thinks that the communication must take place through the encephalon, and therefore, by a reflex action. He says: "I know of a most curious case of inflammation of the cornea and conjunctiva, followed by ulceration and opacity of the cornea, due to that very cause—overwork with the microscope. It has occurred in a distinguished friend of mine, Dr. F——, now professor at Lille. In this case anesthesia and a degree of atrophy of the face were produced at the same time as the ophthalmia, on the left side, the micrographer making use of the right eye." "If I had time," says Brown-Séquard, "I would endeavor to prove that it is not by a reflex action from the optic nerve, but from the filaments of the trigeminal, in one eye, that this inflammation of the other eye has proceeded."

As early as 1851 and 1852 Dr. Brown-Séquard and his pupil, Dr. Tholozan, with Professor Cl. Bernard, had demonstrated the function of the great sympathetic nervous system in controlling the circulation of the blood in the vessels by dilating and contracting them, and so materially varying the vital activity in the organs and tissues supplied by the increase or decrease in the blood-supply. Brown-Séquard and numerous experimenters have demonstrated the fact that any and all causes which increase the quantity of blood in the head, produce nearly if not all the phenomena following section of the cervical sympathetic. For example: the hanging down of an animal, by holding it by its hind legs, by producing congestion of the head, produces very nearly the effects of this section. Does not this explain the ill effects some have observed and reported, of the Trendelenburg position?

If it were important, we might refer to numerous cases reported where sciatica has produced atrophy of muscles of the leg, and pain starting from the cicatrix on the left forearm has caused atrophy of both arms; and injury of the supramaxillary nerve has resulted in atrophy of the face, and atrophy is not the result of paralysis and non-use of the muscles, for many cases are reported in which atrophy occurred before the paralysis or without paralysis and even with convulsions.

Cases are reported where sciatica and various forms of neuralgia have produced anesthesia in near or more or less remote parts; and Gross calls attention to the individual peculiarities; that the prick of a needle and the passing of a bougie have often produced faintness, and the extraction of a tooth has caused death from shock.

While nearly all the writers on shock have recognized the fact that it was produced by reflex action, there has been a variety of opinion as to the nature of the action, most of the earlier writers favoring the idea that it was due to paralysis of the nerve-centers and to their loss of control of the tissues and organs; thus Gross says it is "a depression of the vital powers and essentially dependent upon a loss of innervation," and more especially the loss of the power of the sympathetic system to control of the blood-vessels, a reflex vasomotor paralysis." Warren, in his "Surgical Pathology and Therapeutics," referring to the experiments of Hodge, who found that stimulation of nerve ganglia and glands produced changes in their cells which rest restored, says that fatigue decreased the size of the nucleus and made it irregular in outline, and that it took a darker stain; that the cells of the cerebrum and cerebellum shrank considerably in size with enlargement of the pericellular lymph space; and suggested that a similar effect—though at times more severe—may be produced on the nerve-cells by the injuries which produce shock, and as their normal condition is soon restored by rest, this rest is important in the treatment of shock and suggests its pathology.

Dr. George W. Crile, in his "Cartwright Prize Essay" for 1897, reports a valuable series of experiments on 148 dogs, and carefully records the effects on the blood-pressure in the various central and peripheral regions, nd upon the heart's action and respiration. The dogs re of various kinds and sizes with varying degrees of ealth and strength, and different degrees of shock are roduced by operations on the external parts and organs s well as the internal viscera. The experiments were ll made under anesthesia, mostly ether, and consisted f cutting, tearing, crushing, bruising, sawing, punctur- ng and burning almost every tissue and organ of the an- mals. Numerous experiments were also made by frac- ures, stab wounds and gunshot wounds of the thorax nd its viscera, and likewise of the abdominal and pel- ic walls and their contents, and the effects of the shock" carefully recorded by modern instruments. I an give but a very brief outline of the results as he re- ords them in his interesting and suggestive essay. He numerates as factors causing shock: 1. The duration of he operation. Animals may be killed by prolonged nesthesia alone. 2. The temperature of the operating- oom and of the salines and other solutions used as a ocal application or venous injection. 3. The physical ondition of the animal, whether strong and in good ealth and flesh, or poor and weak. 4. Great care had o be exercised not to give too much of the anesthetic— ther and especially chloroform when it was used, chlor- form being the most toxic. 5. Hemorrhage always pre- isposed to shock, especially when severe and venous, he venous producing more severe results than arterial. But care was usually taken that there should be as little emorrhage as possible. 6. The vasomotor system is nost profoundly and constantly affected in shock, and he regions most abundantly supplied with the vasomotor erves were naturally the most affected, and no part of he circulatory apparatus was so delicate and its connec- ion with all parts of the body so minute and its equi- ibrium so easily disturbed as the vasomotor; and the njuries produce shock in proportion to their severity nd the duration of their application. 7. The heart's ction was the chief support for blood-pressure, and it ontinued long after vasomotor rhythm and pressure vas lost, and even after respiration ceased. In almost ll the deaths respiration ceased before the heart's action. At the post-mortems, the large venous trunks were full, ometimes enormously engorged; arteries empty, as also he left auricle and ventricle empty or nearly so; the ight auricle and ventricle contained some blood; pul- nonary vessels empty; tissues of brain and the somatic rea anemic; liver usually engorged; spleen and kidneys omewhat less so.

Crile, in his valuable series of experiments, has con- lusively shown the first and most constant effect of hock is to contract arterials and so lessen the tendency o hemorrhage, if threatened, and this engorges the eins, especially the larger ones, and increased venous ressure increases the output of the heart, and so the upply of blood to all the tissues for their nutrition and epair.

Reflex action in the physiologic and pathologic condi- ions is then of the same nature as shock, differing only n the suddenness, severity, extent and continuance of he impression or stimulus.

If then, the estimate is correct, there are twenty-six nd one-half billions of cells in the adult human body, ll susceptible to stimuli, normal and abnormal, because hey are living, and of these there are three thousand nillions of nerve-cells with their fibers and filaments, whose duty is to connect each one of these cells more or ess intimately with all the rest in one wonderful and earful whole. In health each one, in the words of another, eats, grows, reproduces and has motion" or function, each has its normal stimulus and function, and if the action of any of these is excessive or deficient, derangement, disease and perhaps death of the whole follow. And any unnatural or abnormal impression or excessive stimulus made on any one or any number of these billions of cells, is or may be communicated to many or all the rest, by the three thousand millions of nerve-cells with their connecting fibers and filaments.

A relatively sudden impression or stimulus, severe enough to derange or disorganize, we term shock. It ordinarily primarily affects the vasomotor system—the automatic system—contracting the arterioles, lessening the arterial blood-supply to all the tissues and disturbing their nutrition. The veins dilate from the *vis a tergo*, the heart increases the force of its beat and the output of blood is increased and respiration deepened; but soon reaction occurs, the arterioles and veins dilate, there is a stasis of blood, the nerve-centers, which preside over the respiratory process, fail to get their appropriate nourishment, respiration becomes irregular and shallow, the heart soon feels the influence of its own disturbed nutrition and innervation from the primal cause and the imperfect respiration.

Shock, then, is due, as we believe, to a stimulus or impression being conveyed automatically by afferent nerves to nerve-centers, whence they are sent by efferent nerve-fibers to the vasomotor apparatus, controlling the function and nutrition not only of the lungs and heart, but of all the organs and tissues. The rhythm of nutrition is disturbed, growth and decay—metabolism—are interfered with. Rest may bring recuperation and renewed life, if function and nutrition return, and the vasomotor nerve-centers resume their command of the vascular system. Respiration slowly returns to its important duty, the heart sends the blood to carry to all the tissues their necessary food and remove their effete material, and life, health and vigor are again established.

But if the shock to the vasomotor centers has been too great, rest and treatment will not enable them to recuperate, and the lungs and heart will not receive their necessary stimulus nor blood, and death and disintegration must soon follow.

If now, the nature and cause of shock has been made at least somewhat plain, the treatment will be readily suggested.

1. Preventive: When we can anticipate the coming danger, the best preparation is in the perfect health and normal working of all the organs, a perfect balance in absorption, assimilation, metabolism and excretion—all the vital activities.

2. Hemorrhage, so far as possible, is to be prevented or reduced to a minimum, for loss of blood lessens vital activity and especially weakens the vasomotor system, on which life so much depends.

3. Temperature: For the normal activities of the human body an internal temperature of from 100 to 110 F. is required, and this temperature is normally maintained by the molecular changes in the tissues. When these changes are diminished or reduced to a minimum, the abstraction of heat by exposure must be avoided and artificial heat supplied so far as possible.

4. Therapeutics: Atropin, cocain, morphin and alcohol, used hypodermically and by the mouth, have had their advocates for the prevention of shock, and all probably have a certain efficiency in suitable cases; atropin by supporting the heart's action, and cocain, morphin, alcohol and other anesthetics by lessening the sensibility of the nerve-centers and the conducting power of the nerve-fibers, prevent the reflecting of impressions on and

injuries of sensitive nerve-fibers as widely or as in their natural state.

TREATMENT.

1. Quiet, rest in the horizontal position and artificial moist heat have long been recognized as valuable means of restoring the lost tone to the vasomotor system.

2. Lower the head enough to make gravity aid in furnishing sufficient blood to nourish and excite to proper function the important reflex centers of respiration and the heart's action in the medulla, as well as the visceral ganglia in the lungs and heart themselves.

3. Experiments have conclusively shown that while shock first affects the vasomotor system, respiration is early impaired or stopped some time before the heart's action is seriously deranged or stopped, and, therefore, artificial respiration may be the means of continuing life by furnishing oxygenated blood for the vital centers in the medulla. The inhalation of oxygen is likewise indicated for the same purpose.

4. The interstitial and intravenous injection of the warm salt solution is perhaps our most efficient, certain, powerful and lasting remedy, particularly when there has been hemorrhage, and when the case is not specially urgent the same solution may be efficient when introduced into the stomach or rectum, and when convenient the peritoneal cavity may be used for the same purpose,

5. The therapeutic remedies are all those which will restore the tone of the vasomotor system and support respiration and the heart's action. Of the many drugs which have been recommended and used, strychnia probably claims, rightfully, the most friends, used in the way the operator deems best to reach the circulation and so the nerve-centers; next digitalis and strophanthus, nitroglycerin and ergot in appropriate dose, and lastly the various glandular extracts, as of the suprarenal, thymus, thyroid, mammary and parotid glands[1]. Of these the extract of suprarenal capsule in 5-gr. tablets[2], internally, also locally and hypodermically, is the most in favor at present, as a vasomotor and heart stimulant.

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THE RECONSTRUCTION OF THE PELVIC STRUCTURES INCIDENT TO LESIONS OF PERINEUM*.

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When in London some time ago, the plastic repair of the pelvic structures was under discussion. One of the most distinguished surgeons said to me: "You will at least grant that we have settled upon the better methods for the restoration of the perineum," and yet, on further inquiry, I found that he advocated his own peculiar operation as the best, and disagreed with every other writer on the subject. I am quite sure that the methods in practice by distinguished operators differ essentially, both in principle and technic, and that which is of the most importance, the resultant, is often defective and unsatisfactory. I can not help thinking that this is due primarily to an imperfect knowledge of the structures and functions of the parts involved. Of the structures, the anatomy of the pelvic floor in woman has very generally been imperfectly described and studied.

I review my own publications on this subject with more than ordinary satisfaction, since they may be considered as progressive phases in the study of a problem which has occupied more than an ordinary share of m attention for a number of years, and to what I now offe although perhaps not conclusive or final, I invite you consideration and earnest criticism.

All good surgery must be based on a thorough knowledge of anatomy, and while this is essentially true in th consideration of every operative measure, as for exampl the resection of a bone, or the ligation of a vessel, it i especially to be emphasized where the avowed obje of the operator is the restoration of the injured par to their original normal condition.

The surgical anatomy of the male perineum may b said to have been practically demonstrated, and th subject long since exhausted. It is a *sine qua non* to th graduation of every medical student, and properly s because of the importance of such knowledge in th practice of every-day life; but if this is necessary to th proper consideration of diseases of the male, how muc greater the need of a familiar and accurate understanding of the pelvic organs, their relationship, and support in the female!

Here, in addition to the lower segment of the alimentary canal and its outlet, the position and retention o the bladder with its efferent passage, are placed the complex organs of reproduction, which necessitate a thir and the largest of the openings through the pelvic floo Not alone should this give additional interest and importance to the careful study of the female pelvis and it contents, when in the exercise of the ordinary function of life, but especially when we take into consideratio the physiologic changes occurring during pregnancy an parturition—conditions so important and which occup so large a share of the attention of the profession an often demand from its members the exercise of th highest skill and ability. If, happily, the recovery fro parturition renders danger to life no longer imminent nevertheless every practitioner listens to the almost dail complaint of suffering dependent on injury to the part involved and the reflex disturbances resulting therefrom

The comparison of the component structures of th male and female pelvis shows a closer analogy than i at first apparent. The levatores ani in the male are inseparably blended with the sphincter ani. The transversi perinei join in a central tendinous line with th levators and sphincter in front of the anus; and anteriorly, between this point and the accelerator urina and erector penis there exists an irregular space, floore by the deep perineal fasciæ, called the triangular ligament of the urethra. This corresponds to the vagina opening in the female. The accelerator urinæ, or ejaculator muscle, separated in the median raphe, is no very unlike the sphincter vaginæ muscle. The erecto penis and erector clitoridis are similar in position an function. The transversi perinei are placed more obliquely in the male than in the female, and are ofte less well developed.

The depth of the perineum is less than usually described. The axis of the anus, cutting that of th vagina at nearly right-angles, leaves, in the externa angle, an irregular flattened portion of tissue rarely when examined on the living subject, more than one-half an inch in thickness. In the nulliparous woma this is clearly defined as a firm portion of the pelvic floor and is composed of skin, fat, elastic and connectiv tissue, transverse muscles, sustaining fascia, and the anterior portion of the sphincter ani.

The vaginal side is usually slightly concave, and th rectal side convex, owing to the interblending of th sphincter ani. If the finger be carried just within th erineum proper and a little to one side, there can be elt the firm encircling band of the levator pubo-coc-ygeus, attached to each ramus of the pubis above and escending to join with the posterior fibers of the hincter ani and coccyx. In the perineum posteriorly his is firmly interblended on either side with the ansversus perinei muscles. These are under the con-ol of volition in considerable degree, and acting con-intly, serve to draw the vagina forward on to the pubis.

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[1] Dr. J. B. Stober, Am. Jour. Obstetrics, September, 1898.

[2] Dr. W. H. Bates, Medical Record, Oct. 8, 1898.

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The parturient and fecal canals are supported in the elvic basin in close apposition, and the functional elationship is often such that the one may encroach n the other in such a way as to occupy nearly all the pace accorded to both. This is especially true in par-rition, when the rectal space is reduced to a thin folded ibe; and often in elderly women who have borne chil-ren, the rectum becomes saccated, pushing forward the osterior vaginal wall, forming a considerable sized xternal tumor. The pelvic floor is so formed and ended about these openings that it not only properly pports the vagina and rectum, but materially aids in eir physiologic function. In intimate relation to oth are the bladder and uterus in their ever-varying nctional activity, and each is surrounded by a delicate exus of nerves and vessels.

The sacral prominence throws a large proportion of e abdominal weight on the symphysis pubis and the cti muscles, in the support of the body, and thus re-eves the pelvic basin and takes off undue strain on the elvic floor. The rectum is rarely entirely empty, is rcular in shape, serves the digestive apparatus in a easure as a constantly receiving reservoir, and, when ot distended, may be felt from the vagina, as a rule, rving posteriorly. It is suspended and supported, ung, so to speak, by the levator ani muscles, which olds the vagina in their encircling loop. On the con-ary, the vagina, entirely unlike the earlier diagrams, flattened antero-posteriorly on itself, and in health its alls are, when at rest, ever in close apposition. The gina joins with the vulva at right-angles to its lateral ening at the entrance of its passage through the pelvic oor. The vulvar organs are all intimately blended ith, and go to form a part of the perineum proper. n each side of the vaginal orifice are the erector clitor-is, the bulbo-cavernosus, and the transversus perinei uscles, and these with the levator ani make up, in large easure, the pelvic floor. The bulbo-vaginal and Barth-inian glands are covered by these muscles with their ectile plexus of vessels and abundant distribution of mphatics and nerves.

The erector clitoridis and bulbo-cavernosus muscles ith the transversus perinei join on each side to con-itute the ovate, muscular vaginal orifice and, in their njoined action, perform a very important physiologic nction in sexual congress, often underestimated or nored. Their impaired function frequently underlies rtain reflex nervous conditions, distinctly pathologic, hich are easily overlooked, but are the cause of much ffering and unhappiness.

The much discussed, so-called perineal body has, my opinion, misled some of our prominent authors to false positions and caused great confusion and isunderstanding among physicians. I have been iticised, in emphasizing the muscular floor of the elvis, that I underestimate the importance of the vari-usly distributed connective tissues and fascia. This is ot by any means my intention. The superficial perineal scia, in its deep layer in the male, as well as in the male, covers and encloses the transversus perinei muscles, forming strong ligamentous transverse bands, uniting in the perineum, designated by Savage as ischio-perineal ligaments. The transversi are much more developed and cross the pelvic opening nearly at a right-angle to a line drawn from the symphysis to the coccyx. At their central point of union they interdigitate or blend with the fibers of the levator loop in the posterior vulvar region, and go to make up the central point of support in the floor of the pelvis. These muscles are interwoven and surrounded, reinforced as it were, by very considerable bundles of connective tissue. The method of the interweaving of these structures is worthy of special mention, since it is only possible to secure elasticity of this strongest component of the human body by the interweaving of its fibers diagonally. I do not know that this fact has been brought into special emphasis by any one, but its importance is at once apparent and has an illustrative example in the connective sheath of the intestine, where the crossing of the connective-tissue fibers diagonally permits of the shortening of the intestine, as in peristalsis, and its very considerable dilatation entirely within normal physiologic function. If, on the other hand, the connective-tissue fibers were arranged for strength only, as in the tendons, elasticity would be almost entirely wanting.

The pubo-coccygei, acting in unison with the other muscles of the pelvic floor, draw forward and thus aid not only in closing the rectum, but hold both it and the vagina in the anterior curve so important to be retained for the preservation of normal function. A horizontal section, made through the floor just above the sphincter vaginæ and posterior to the junction of the transversus perinei, shows the deeper fibers of the pubo-coccygeus, united in a loop behind the lower border of the rectum, holding it from the fixed point at the pubes as in a sling. This loop is connected with the transversus perinei, bulbo-cavernosus, erector clitoridis, sphincter vaginæ and sphincter ani muscles by strong layers of connective tissue, the importance of which for union and support cannot be readily overestimated.

On the posterior wall of the vagina, in its lower third, longitudinal muscular fibers are found external to the circular layer, and these intimately blend with the pubococcygeus, giving a firm support to the vaginal outlet quite as the outer longitudinal fibers of the rectum unite with the deep layers of the sphincter ani. The physiologic action of the muscles thus grouped serves to draw the rectum forward toward the pubic arch and approximate it in close relation to the urethra, and this explains, in large degree, why the circular fibers of the vagina, left free to act in other directions, are intrafolded laterally, making in cross-section an imperfect letter H, first pointed out by Freund. This intrafolding of the vagina at right-angles to the axis of the vulvar outlet is very important in its relationship of support to the uterus and its appendages.

The vaginal axis is normally about parallel to the conjugate of the brim. The anal axis is nearly at right-angles with the vagina and on a line with that of the uterus. The urethra, vagina, and rectum are disposed in curves corresponding to the sacral line. Architecturally considered, these are the lines and disposition of supports adapted to give the least outlay of power to retain the organs in position. This is the more to be emphasized, since the physiologic function demands mobility of the organs in conjunction, and also each independent of the other. Viewed from this standpoint, a still further analysis of the vagina as a column of elastic support to the cervix uteri is of interest and importance.

We have already observed that the circular loop of the muscular fibers of the pubo-coccygeus, posterior to the anus, carries the rectum forward on to the vagina and changes the vertical vulvar outlet into an antero-posterior closure of the vaginal canal, and that this is again thrown into two lateral folds. The longitudinal muscle fibers external to the vaginal muscle and which extend, both in front and behind the vagina, along the distal third, are the chief causes in producing this intrafolding, constituting in large degree the so-called columnæ rugarum. The letter-H shape, thus given to the vaginal column in section is well known in the arts as the form adapted to the resistance of vertical weight. This elastic column, retained in its shape and position by its basic bulbar and perineal support, is blended in its upper border with the cervical tissues. The union thus made with the uterus is nearly at right angles to the vagina and serves to hold the lower segment of the uterus backward, retaining that organ, like a ship at anchor, swung on its lateral supports, with freedom of mobility at its moorings. This vaginal support to the uterus is so effective in the normal condition that the cervix uteri is rarely displaced without there first ensues a change in the vagina. Although there are exceptions, of which the scope of this article will not permit the discussion, the general consensus of medical opinion is that the changes which occur in the vagina usually commence with those lesions of the outlet and contiguous tissues dependent on parturition.

A weakness in the base of support, the change of muscular action which causes a drawing upward and backward of the posterior vaginal wall, with an eversion of the vulvar outlet, produce a change in the axis of the vagina, bringing it and the uterus toward a common plane, and then the cervix, instead of being held at right-angles to, becomes a wedge in line with the vaginal outlet, separating its walls.

This change in the position of the uterus causes the weight of the abdominal contents, deflected toward the pubis, no longer to fall on the organ posteriorly, but vertically, and little by little, following the sacral curve in its descent, prolapsus with varying degrees of retroversion ensues.

Another anatomic fact, not usually taken into consideration, is the structure of the vaginal tissues and the relation of the vagina to the pelvic floor. The vaginal muscle is attached to the perineal structures normally only by a very loose interlacing of connective-tissue fibers, and at its vulvar junction is posteriorly folded in on itself not unlike the sleeve of a coat, except that it is fitted to an elastic opening. A little fold of this tissue posteriorly constitutes the more or less pronounced hymen.

I have deemed it necessary to emphasize thus much the anatomy and physiologic function of the pelvic structures in woman, in order to make clear the anatomic type which the surgeon must aim to secure in the reconstruction of these tissues, more or less damaged in parturition. Even in an article of the present brevity, we must take into consideration the pathologic conditions which demand restoration. An elastic opening, which is too small normally to permit the passage of a body, must yield by lesion. Many of the minor tears, however, of the perineum, are undoubtedly produced by the still prevalent custom of "supporting the perineum," which generally means a pressure from below upward, preventing the downward descent of the fetal head, in order to permit the escape of the occiput beneath the pubic bone. Naturally the tissues will yield where the tension is greatest, and this may be central or lateral, and may extend through the sphincter muscle into the bowel.

Generally the first important structure to yield is some point near the central union of the transversi muscles, and then the vaginal and vulvar structures rarely escape injury. The resultant is an injury and widening of the levator loop, and the drawing to either side by the sundered transversi toward their respective origins. If the sphincter ani has not been injured, by a slow process, a rectocele almost necessarily follows. If the sphincter is torn through, as might easily be inferred, the pouching of the bowel can not occur and, as a consequence, the uterus is less likely to be displaced.

Intelligently conducted operative measures are undertaken to restore the structures as far as possible to their normal standard. With this problem before the operator, it would not seem difficult to make the procedure definite and comparatively simple. In a paper read before this Section some years ago, on this subject, I threw on the screen about fifty photographic illustrations, in order to enable my audience to follow intelligently with me the different methods devised for the surgical repair of these lesions, and yet I am sure I did not include all, while many have been added to the list during the intervening years.

The first great point of difference lies in the selection of the operative field; shall it be *on, through,* or *behind* the vagina? This opportunity does not permit a differential discussion of the question, but since the vaginal structures do not enter into the formation of the pelvic floor, it would seem wise to eliminate them as far as possible from the problem. To dissect them entirely away with a portion of the injured vulvar structures, as is the more common custom, is unwise, since they should be preserved for important physiologic purposes. To preserve them intact seems rational, since they are thus less injured and serve the subsequent important purpose of protecting the wound from infection. In order best to do this, the dissection is carried through the cicatricial tissue laterally to the point on either side which marks its former attachment, and upward through the loose connective-tissue, post-vaginal attachment quite to the crest of the rectocele.

This vaginal flap is lifted forward by an assistant, and on examination the fibers of the levator loop are easily demonstrated. A careful inspection of the vagina before operation will enable one to detect a depression on either side, which marks the site of the separated, contracted transversi.

It is generally wise to extend the incision posteriorly on each side to the level of the anterior border of the anal opening, and laterally on either side by reflecting a small portion of tissue. The limit of this dissection is determined by the depth of the sulcus or depression, which is usually found posterior to the vulvar organs. This makes a wide, open wound which permits of the careful readjustment and reunion of the injured parts.

In this way only can the surgeon intelligently restore these structures to their former normal relationship. If this has been aseptically performed, and the aseptic condition maintained, primary union will supervene with complete restoration of function.

Thus briefly have I outlined what I consider to b the essentials of the operation. Technic may and shoul vary with different operators, since a man does his wor best in the way most familiar to himself. This permit somewhat wide digression as to variety of method. s ordinarily attempted, the dissection is not easy and greatly facilitated in the following manner:

An assistant on either side separates the vulvar open- ng, while the operator introduces two fingers of his left and quite into the rectum. Anterior to the anus, a light opening is made through the structures thus held ense, into which a knife with a small rounded end. bliqued to an angle of about 40 degrees on a firm andle, is introduced. Force applied in the line of the andle brings the cutting edge to an angle with the tructures to be divided, and they are thus separated with ase and accuracy. After the cicatricial structures are ivided, the right and left angled Emmett curved scis- ors are introduced to complete the external incision. hen the division of a few bands with the scissors will ermit of the anterior lifting of the vaginal sheath nd the operator for the first time is surprised at the ase with which the further separation to the crest of he rectocele is effected, often by the thumb and finger lone. By the aid of the fingers retained in the rectum, he bowel is protected from injury and, once inserted, he surgeon retains them there until the operation is ompleted. To me the *sine qua non* of the operation is he buried suture, and only by its use can a readjustment f the parts be accurately effected. Many surgeons pre- er a curved needle and continuous suture. By means of his a lacing stitch can be applied from side to side for oaptation.

However, I still greatly prefer the needle fixed in a andle with large curve and eye near the point. The in- roduction of the first stitch is the most important. It ust include the retracted end of the transversus in s association with the displaced levator loop. This be- ng effected on one side, the suture is made to penetrate he junction of the vagina and rectum at the crest of the ectocele, and is carried across to include the trans- ersus on the opposite side. The loop of the suture held y an assistant, the operator easily approximates the arts with it, and three or four continuous double titches, taken in this way—Marcy's stitch—reunite he most important structures. A fine continuous su- ure, introduced by a full-curved Hagedorn needle, ren- ers it easy to make complete deep coaptation of the sur- aces laterally, while every stitch is buried in healthy tructures. Even here we find the collodion seal is of alue and makes an impervious dressing for one or nore days. As soon as it is loosened, it should be re- noved. A light dusting with iodoform is the only sub- equent dressing needed. In this way it is easy "to build ut" the structures so that the depression posterior to the ulva disappears. The folding of the vagina anterior o the wound frequently results in a thin membraform vall closely resembling a slightly ruptured hymen. Ionths later it would indeed be difficult oftentimes or an expert to determine that the woman were not a ullipara.

When the rupture is complete, that is involving the owel, the essentials of the above operation still pertain. The dissection anteriorly differs only in that there is a entral rent through the separated vaginal sheath: osteriorly, in that the rent includes the sphincter ani nd extends in a greater or less degree up the rectum. The dissection here must be continued farther down n the sides of the anal opening in order to reach the etracted ends of the sphincter muscle. The vaginal ent is united by a buried continuous tendon suture, ntroduced from side to side on its dissected surface. he end of which is for a time left long and given over to the care of an assistant. In the same way the edges of the injured bowel are restored, and thus we reduce the conditions to those pertaining to an incomplete rupture of the perineum. The remaining steps in the operation are the same as already described, with the exception that care must be taken to reunite the sphincter ani muscle.

Vagino-rectal fistula is fortunately much less often seen now than formerly, and yet when it does occur, even in the hands of our best operators, it proves one of the most troublesome conditions for cure. For many years I have treated it by the lateral separation of the structures as above described, closing the vaginal and rectal openings separately. Oftentimes, when comparatively little tissue is left, it is easier to divide the sphincter and intervening parts centrally to the fistula.

Following the description of this operation, one might at first infer that it was difficult and tedious. As a matter of fact it is simple and rapid, often completed within fifteen minutes. The convalescence is easy and rapid with very little suffering. I prefer that the urine should be drawn with a catheter during the first three or four days, and that hardened fecal masses shall not be permitted to accumulate in the lower bowel. In securing primary union, much depends on the subsequent care of such a patient by the nurse.

The operation is also a test of the surgeon's ability to make and maintain an aseptic wound in this, one of the most difficult parts of the body. Failure to secure good results under the proper care is the exception and is rare. I have operated several hundred times by this method. Recently I inquired of the head nurse in my hospital, "how many failures to secure a good perineum have occurred since you have been with me?" With seeming surprise at the question, she replied, "Not one," and she has had supervision of my work uninterruptedly for the last thirteen years.

In a paper[1] published ten years ago, on the repair of the perineum, I closed with the following as the essentials of my method:

"1. The dissection of the posterior third of the vagina, *not in its mucous membrane,* from its vulvar attachment, carried as deemed necessary into the recto-vaginal space, and the *retention* of this flap.

"2. In lifting forward the vagina from its vulvar attachment, the retracted transverse perinei muscles with their connections are reached and reunited by deep buried sutures, making in this way a true restoration of the pelvic floor.

"3. In rectocele with prolapse, the closure of the deep layers of the post-vaginal fascia by a continuous buried animal suture, taken either in single or double line of stitches.

"4. The coaptation of all superficial surfaces by a buried animal suture, applied as a continuous stitch, taken from side to side, covering the wound, when dry, with iodoform collodion.

"5. In rupture involving the sphincter, the lateral dissection, the joining of the rectal and vaginal edges with buried sutures, and then finishing the operation as in incomplete rupture."

I consider the closure of wounds aseptically by the buried animal suture, preferably tendon, my best contribution to surgery, and its application to the plastic repair of the pelvic structures is second in importance to few other operations.

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[1] "The Perineum, Its Anatomy, Physiology and Methods of Restoration After Surgery." Reprinted from Trans. Am. Assn. Obst. and Gyn., September, 1898.

CASE OF URTICARIA PIGMENTOSA FOLLOWING CHICKEN-POX.*

BY ALBERT WOLDERT, M.D.
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The patient, a male child 11 months of age, of English parentage, was presented for treatment at St. Joseph's Hospital on May 10, 1899.

Family History.—His father and mother are living and in good health, and there are eight other children all of whom have been entirely free from a rash of the character hereafter described. The father and mother have never suffered from a rash of any kind, with the exception of prickly heat, and both seem to present a history free from specific disease.

Personal History.—The child was born at the eighth month of gestation, there being a hard, dry labor, and version was done. The patient has been fed on the breast, has never suffered from a rash or disease of any variety until he had the chicken-pox when 3 months of age. At the time he became ill of this latter disease an epidemic of the affection prevailed in the immediate neighborhood. The varicella first developed on the legs, the body, face and hands subsequently being affected. This rash of varicella was first manifest by the appearance of small reddish spots which soon became vesicular, followed by crusts and whitish scars. The duration of the chicken-pox was about two weeks.

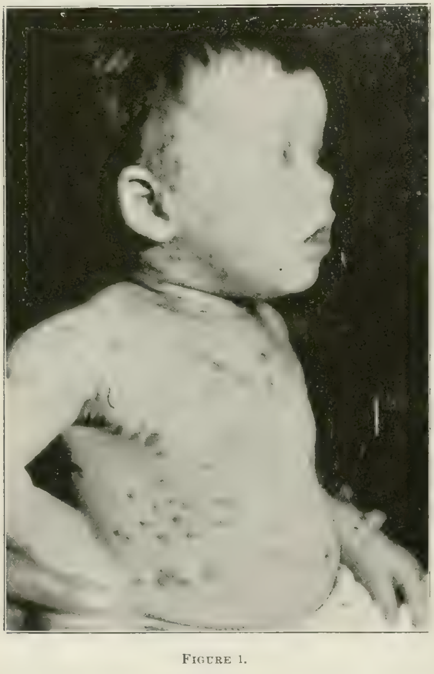

Figure 1.

Present Illness.—About one week after the rash previously mentioned had disappeared, the mother observed some reddish blotches (which she states were not elevated) on the anterior surface of the chest. When these reddish blotches were first discovered, an area, probably the size of the hand, had been involved. Within a period of about four days from its discovery on the chest a similar eruption became prominent on the abdomen, and several days later was detected on the anterior surface of both thighs, and within an equal length of time the anterior surface of both legs had been invaded. After the rash had spread over the legs anteriorly, and at about the same time, a few reddish spots were noticed on the back of the neck, and within one week had spread over the entire dorsal region of the chest. Two weeks later the calves of the legs became affected. The face and scalp have been free from the disease.

Within a period of probably one week subsequent to the observance of the eruption on the anterior surface of the chest, the area first involved began to turn brownish in color, while the affected portion of the abdomen was yet reddish. Within a week after its first appearance on the abdomen this area became brownish, as did the legs. On the dorsal region of the body the rash pursued the same clinical course in that the affected portion of skin first assumed a reddish tint, followed within a few days by a brownish one and at the end of eight months may be observed at this time.

When the eruption first made its appearance, according to the mother's statement, it was not elevated but in the form of distinct blotches, probably half an inch in diameter, and bright red in color. These spots were discrete in form. Whether itching was present or not in the early stages is not known, but at the present time it possibly possesses this character.

At the present time the rash may be described briefly as follows: Over the entire body of the child, except the face and scalp, there exists a light brownish or salmon-colored rash, maculopapular, or perhaps taking the character of wheals, which are found to be both discrete and confluent in form.

RECAPITULATION.

If the clinical history be correct, we have here a disease of the cutaneous surface, which first made its appearance on the anterior surface of the chest, subsequently on the abdomen, later on the legs anteriorly. After it had traveled over the front of the body the dorsal surface became affected in like manner. In both instances the rash developed above and extended downward.

The points of special interest in the case seem to be: its rapidity of development; that it is not markedly itching in character; that the lesions are but slightly elevated; and its predominating tendency to become confluent.

According to Dühring, under this name "Urticaria Pigmentosa"—the following description is given: An unusual form of urticarial disease has been described, characterized by the formation of pinkish, reddish, yellowish, salmon or fawn-colored wheals, to be sooner or later succeeded by yellowish, reddish, olive-green, or brownish pigmented spots. The skin is generally sensitive and irritable, often highly so, the least excitement in many cases occasioning turgescence of the lesions with a variable degree of itching and burning. The disease is usually chronic, lasting an indefinite period, ordinarily over a period of years. It may be mistaken for urticaria, for the erythematous and papular syphilodermata, and especially for the macular or tubercular form of xanthoma. It is also to be distinguished from pigmented nevi.

Cases of urticaria pigmentosa have been reported by Nettleship, Morrow, Goodhart, Barlow, Fox, Stelwagon, Elliott and others. According to Stelwagon, up to this me about sixty cases have been reported. In his ex- erience of twenty years he has seen three cases.

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*Read (by invitation) before the Philadelphia Pediatric Society, June 13, 1899.

Symptoms. (Dühring).—The disease usually begins a the early months of life, during the first year. It oc- urs on the general surface, and in most cases is ex- ensively distributed and profuse. The lesions are most umerous on the trunk, and next on the limbs, but no egion is exempt. Wheals, maculopapules, papules, or odules, pea, coffee-grain, or almond-sized and shaped r irregularly rounded, appear. The form rapidly or radually, generally disseminated, but sometimes somehat grouped. To the finger they feel considerably ougher than normal skin, and they do not fade on pres- ure. On handling they incline to become urticarial and edder. New lesions appear from time to time, the arlier ones undergoing involution in a variable manner, s a rule slowly. Itching is a prominent symptom and ay be distressing on account of its persistence. But ching is a variable symptom and may be absent al- ogether.

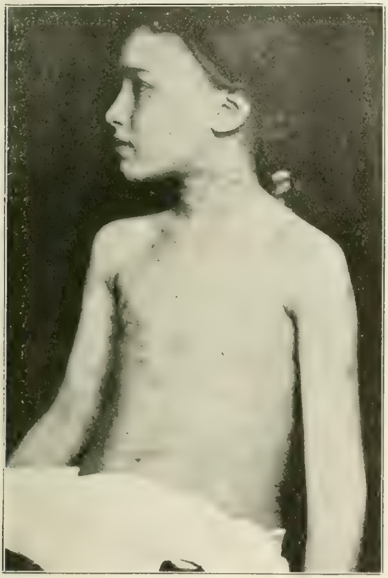

Figure 2.

Etiology.—The cause of the disease is obscure. Its lations to true urticaria are not clear. Stelwagon be- eves that in the early stages the disease is essentially urticaria, the subsequent peculiarities being due to condary changes in the lesions.

Pathology.—According to Raymond there may be und, in the first stage, large granular cells in rows, in e corium, and a few hematin crystals in the papillary yer. Later the granular cells break down with the ccurrence of more numerous crystals of hematin.

The granular cells are associated with connective ssue to which is probably due the peculiar color of the sions. Other observers have also noted the marked llular infiltration which has been shown by Unna to a collection of very large flattened "mastzellen."

Treatment.—In the cases recorded varied treatment ad been employed. Atropin and pilocarpin have roved two of the most useful remedies. An ointment composed of naphthol, 30 to 40 grains to the ounce, weak sulphur baths, and the application of a weak solution of Fleming's solution have been recommended.

The author desires to tender thanks to Dr. Stelwagon for the courtesy of using the original photographs of his cases in order to elucidate the text of this article, and also to Dr. Dühring for favors.

REPORT OF CASES OF PULMONARY TUBERCULOSIS, TREATED WITH INTRAPLEURAL INJECTIONS OF NITROGEN, WITH A CONSIDERATION OF THE PATHOLOGY OF COMPRESSION OF A TUBERCULOUS LUNG.*

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(Continued from Page 963.)

Case 3.—Mrs. L. V., aged 48, was examined September 3. There had been no tuberculosis in her family. She has coughed and expectorated profusely during the past year. She is pale, anemic and considerably emaciated. There is an extensive tuberculosis over right upper lobe, and bacilli in sputum. September 9: Attempted injection of nitrogen; pleural cavity obliterated by adhesions; the needle entered the lung tissue and there was blood streaked sputum for a short time after the puncture.

Case 4.—Mr. W. H., aged 20, was examined September 3. His mother died of tuberculosis at the age of 32; he has coughed about 4 years; has afternoon elevations of temperature and occasional night sweats. Examination shows that he has a good physique; face flushed; temp. 101 F. in forenoon. There is an area of dulness over the right apex. There are numerous râles over this area and some crepitant and submucous râles are found scattered over the entire right lung. The left lung is negative, except for a few scattered dry râles. His weight is 147 pounds; maximum weight 158 pounds.

September 3: 158 cubic inches of nitrogen was injected into the right pleural cavity. All the signs of pneumothorax were present. Patient expects to change climate after the injection.

Oct. 5, 1898: Patient states that during the three weeks following the operation he felt very much improved; cough diminished; no night sweats; has gained two pounds in weight. The râles appear to be diminished, but there is still a slight pneumothorax. He has not reported since he changed climate.

Case 5.—Mr. J. S., aged 30, was examined Sept. 5, 1898. His mother died of tuberculosis at the age of 36. He has been sick five years. During the first two years of his illness he coughed violently and expectorated freely, and had considerable fever and night sweats. His weight was reduced to 117 pounds after having been sick three months, and varied between 114 and 124 pounds during the first two years of his illness. During the third year he coughed and expectorated less, and reached 135 pounds in weight; during the fourth year there was a gradual improvement. At present he has paroxysms of coughing with much expectoration. He has no fever nor night sweats and is able to work. There are no physical signs in the lungs except scattered crepitant râles in the right lower lobe. There are a few tubercle bacilli in his sputum.

On September 7, 171 cubic inches of nitrogen was injected into the right pleural cavity. There was a perfect pneumothorax and considerable pain and distress for half an hour.

In this case we had supposed, on account of the paroxysms of coughing with marked expectoration, that a cavity existed which was more or less centrally located and gave rise to no physical signs. This patient came from a considerable distance and has not appeared for examination. He sends word by another patient that he is in excellent condition. We hoped in this case that the compression would obliterate the cavity and permit it to heal.

Case 6.—Mr. G. M., aged 30, was examined Sept. 5, 1898.

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* Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus Ohio, June 6-9, 1899.

There had been no tuberculosis in the family. Patient began to cough in October, 1897. Cough and expectoration have continued with some remissions to the present time. There is afternoon elevation of temperature and night sweats, which have been almost continuous from the beginning of the disease Normal weight is from 145 to 150 pounds; maximum 160 pounds; weight at present 134. He had several attacks of hemoptysis. Examination revealed moderate emaciation; temperature 101 F; pulse 118; dulness over right upper lobe with increased vocal fremitus and crepitant râles; numerous crepitant râles over left lower lobe anteriorly but no dulness. Tubercle bacilli are present in large quantities.

September 7: 120 cubic inches of nitrogen was injected into the right pleural cavity. On September 15 the patient writes that his cough has considerably diminished and is never violent, as formerly. He sleeps well; expectorates little, and states that his appetite is good. He says: "The most remarkable feature is that when I left Chicago immediately after the injection I weighed 134 pounds and to-day I weigh 143 pounds and am working every day." This patient was subsequently injected by his family physician. On Dec. 7, 1898, the patient appeared again for examination. At this time there is still dulness of the right upper lobe; entire absence of pulmonary excursion; the liver dulness begins at the fourth rib in the mammary line, showing that the lung has become adherent to the parietal pleura, has retracted considerably, taking with it the diaphragm and to a limited degree the chest wall. At this time his temperature was 98 F, pulse 83, respiration 24, weight 147½ pounds, a gain of 13½ pounds since his first injection. Inasmuch as the pleural cavity is now obliterated and the lung much retracted, I could not inject again, and advised the patient to go to Arizona.

Case 7.—Mr. O. Z., aged 32, presented himself for examination Sept. 8, 1898. There had been no pulmonary tuberculosis in the family. June 16, 1898, he had an attack of pleurisy, from which he still suffers. He coughs and expectorates freely, and has had several slight attacks of hemoptysis; has some pain in the right thorax as the result of dry pleurisy. The right apex is dull and many crepitant râles are to be heard over the upper half of the right upper lobe. On account of the pleurisy it was deemed advisable to delay the operation indefinitely and to await developments. October 11 he was again examined. Subjectively he was much improved. Friction rubs have disappeared; dulness and crepitant râles over the right upper lobe are still as was noted on September 8.

October 18: 120 cubic inches of nitrogen was injected into the right pleural cavity. There was very little dyspnea, some pain over base of right thorax, due probably to pressure upon the diaphragm.

October 31: His appetite has been very poor and he has lost five pounds in weight since the operation.

November 9: He weighs 122½ pounds; pulse 104; temperature 99 F.

November 30: Pneumothorax has entirely disappeared; weight 112½ pounds; temperature 99 F.

December 5: 150 cubic inches of nitrogen was injected into the right pleural cavity.

Feb. 1, 1899: He weighs 126 pounds; temperature 99 F. He coughs only in the morning for a short time after arising. Appetite is good. There is relative dulness over the right upper lobe, and breath-sounds over the right upper lobe are harsh. At the end of a deep inspiration two or three fine crepitant râles are heard at the very apex of the right lung. Patient was obliged to work during the entire time he was under treatment. He stated at the time of the last examination that he felt well and that he would not call on me again unless he should find himself failing.

Case 8.—Miss S., aged 26, was examined Aug. 25, 1898. She gave no tubercular history. She complains of pain in abdomen; diarrhea and harassing cough. She expectorates profusely, has no hemoptysis. An examination of sputum shows an enormous quantity of tubercle bacilli, in fact more than I had ever seen in a specimen of sputum. Examination showed a complexion sallow and of a subicteric tinge; slight dulness over left upper lobe, somewhat more marked, relatively, posteriorly. Crepitant râles were heard over the entire left upper lobe but particularly over the apex, and a few scattered coarse dry râles over the right lung. On account of intestinal symptoms operation was not advised at this time. Cod-liver oil, maltine and carbonate of creosote were prescribed. Her weight at this time was 123 pounds; temperature 101 F., pulse 104.

September 18: Patient has lost three pounds in weight: she coughs and expectorates as before and diarrhea persists. Lung findings are as at previous examination.

October 7: 120 cubic inches of nitrogen was injected into the left pleural cavity. There is a perfect pneumothorax. Heart is displaced 2 cm. to the right; slight dyspnea.

October 10: Pneumothorax still present; cough and expectoration much diminished; weight 126 pounds.

This patient was injected at intervals of from 3½ to 5 weeks, depending on the rapidity of absorption of gas, until four injections had been made. There was a gradual increase of weight, and improvement in general. After the second operation, the menses, which had been absent six months, reappeared. Four weeks after the second operation the physical findings in the lung were practically normal. The breath-sounds over the upper lobe and apex of the lower lobe were a little harsh, and a few dry râles could be heard along the inner border of the left scapula. Dr. Waxham of Chicago examined the patient with me at this time, and was present at the operation. One month after the fourth operation she was discharged. She then weighed 138 pounds, had no cough or expectoration and felt very well, although her diarrhea persisted. Two weeks later, at the time when influenza was prevalent in Chicago, she developed an attack of this disease, and upon examining her lungs at this time râles were heard everywhere on both sides. Fearing a dissemination of the tubercular infection another injection of 150 cubic inches was given. An examination of the sputum at this time was negative as to tubercle bacilli. The lungs gradually cleared up and two weeks later were entirely normal, except the permanent changes in the left upper lobe due to the cicatrization. When last examined, on May 22, she felt perfectly well; there was still a diarrhea; weight 142 pounds—a gain of 22 pounds since date of first examination; no cough nor expectoration.

Case 9.—Mr. P. Z., aged 24, was examined Sept. 29, 1898. There was no history of tuberculosis in the family. He has coughed and expectorated freely for five months, with slight hemoptysis repeatedly. During the past eight years he has had a slight hacking cough, but this has never been associated with other symptoms of pulmonary disease until five months ago. There are a few crepitant râles and slight relative dulness over the left apex. The breath-sounds over the right apex are harsh but no râles are heard here. Pulse 90, temperature 100.5 F., respirations 20; tubercle bacilli in the sputum.

September 9: 130 cubic inches of nitrogen was injected into the left pleural cavity; perfect pneumothorax. A week later the patient was sent to Texas, and October 8 he writes that his cough and expectoration were much diminished and that he has gained four pounds in weight.

July 3, 1899: The patient presented himself again for examination. He has gained sixteen pounds in weight—six pounds heavier than he has ever been—does not cough nor expectorate. His general appearance, particularly his color, has improved greatly. There are absolutely no physical findings in the lung. He asked as to the advisability of an injection to compress the right lung, as a preventive measure inasmuch as he had gained so rapidly after the compression of the left lung.

Case 10.—Mr. C. E., aged 23, was examined Sept. 12, 1898. His parents are living and in good health. The first indication of pulmonary disease was an attack of hemoptysis nine months ago; since then he has coughed and expectorated continuously. He had numerous attacks of hemoptysis during December, 1897 and January, 1898. There is marked dulness over the right upper lobe, and numerous crepitant râles; a few râles over the right lower lobe. Respiratory excursion on the right side is fairly good. A few dry râles are scattered over the right lung; no dulness; his weight is 133 pounds—normal weight 155 pounds—pulse 144; temperature 102.6 F.

September 22: Temperature at 4 p.m. 103.8 F. Stomach very irritable.

September 27: 130 cubic inches of nitrogen was injected into the right pleural cavity. Breath-sounds are almost entirely obliterated.

October 1: He has lost two pounds in weight: has had no night sweats since the operation, which before were very troublesome. Temperature 101 F. (p.m.), pulse 140.

October 14: Weight is 134¼ pounds; cough as before, but expectoration less. Night sweats very slight.

October 15: 115 cubic inches of nitrogen was injected into the right pleural cavity. The patient was sent to Arizona and reported to me by mail at frequent intervals. After a two months' stay in Arizona he developed a pneumothorax, which confined him to his bed two weeks. He gradually improved, however, and on April 18, 1899, he wrote that he weighed 139 pounds, and that his pulse was 106 per minute. His exact condition at the present time is not known. In May he wrote that he felt much stronger, that his appetite was good, his pulse never reached 100, and that he was anxious to return home.

Case 11.—Mr. E. D., aged 31, was examined Sept. 12, 1898. His family history is free from tuberculosis. He began to cough in February, 1898; had an attack of hemoptysis (one quart of blood) in June, 1898. Has lost weight and strength gradually, but considerably. There was dulness and crepitant râles over the right upper lobe, and the sputum contained tubercle bacilli in moderate quantities; weight 135 pounds.

September 13: 140 cubic inches of nitrogen was injected into the right pleural cavity; perfect pneumothorax. Patient returned to his work within an hour after the operation.

October 10: Gas was found to have disappeared almost completely; dulness over right upper lobe as before; crepitant râles less numerous; weight 141 pounds; pulse 88.

October 11: 150 cubic inches of nitrogen was injected into the right pleural cavity. This was followed by considerable subcutaneous cellular emphysema.

November 21: Weight was 148 pounds; no night sweats. His color and general appearance were very much improved. There was slight dulness over the right upper lobe; no râles.

Jan. 4, 1899, he presented himself for examination, having failed to appear for a third injection as he had been directed. He stated that he felt well, that he still weighed 148 pounds—a gain of 13 pounds since the first treatment—but he had developed a very acute attack of bronchitis. Examination of lungs showed both to be involved in an acute diffuse bronchitis. There were moist râles everywhere over both lungs. The sputum was examined, and a few tubercle bacilli found. After treatment with expectorants for one week, no improvement having resulted, he was advised to go to a warmer climate. April 14, 1899, having gradually lost what he had gained, he returned to Chicago. There are now signs of involvement of both lungs. He has gained three pounds since his return and is at work every day.

Case 12.—Mr. C. H., aged 31, was first examined on Sept. 15, 1898. He had coughed and expectorated freely for four months. Cough was sometimes paroxysmal and resulted in vomiting. He had had fever during the forenoon and drenching night sweats since July. He lost 15 pounds in weight during July and August; no hemoptysis; weight 136 pounds. Dulness and crepitant râles prevailed over the right upper lobe and right middle lobe. Tubercle bacilli were present in the sputum in large quantities.

September 23: 135 cubic inches of nitrogen was injected into the right pleural cavity; slight dyspnea; breath-sounds well obliterated.

October 11: He has had rheumatism in knees and ankles; expectoration is diminished; no night sweats; weight 139 pounds.

October 25: Gas completely absorbed. He has had night sweats during last three nights: temperature 103.2 F.; pulse 132; respiration 28. There are signs of a cavity in the third interspace on the right side anteriorly.

October 25: 145 cubic inches of nitrogen was injected into the right pleural cavity; the same quantity November 28, and again on Jan. 10, 1898.

January 10: There is very little cough and only in the morning, immediately after rising; weight 148 (a gain of 12 pounds). Breath-sounds over the entire right lung are diminished. Signs of cavity in third interspace still persist; pulse 96; temperature 99 F.; respiration 24. The general condition of this patient is much improved. The temperature is nearly normal; pulse 96 (Sept. 23, 1898, it was 135). One month later an examination reveals an entire absence of pulmonary excursion; signs of cavity are still present. Further compression of the lung to obliterate the cavity could not be effected, and the patient was advised to go to Arizona.

Case 13.—Miss M. W., aged 23, was examined Sept. 16, 1898. Her parents are living and in good health. There is no tuberculosis in the family. Her illness dates back three years to an attack of influenza. Ten days after the onset of the influenza she coughed up four or five ounces of blood. Since that time there has been continuous coughing and expectoration; the sputum has been blood-stained occasionally. She states that she has fever in the afternoon and night sweats. From January, 1897, to May 1898, she lived in Arizona. Her condition there changed little, if at all. She is anemic, emaciated, and weighs 100 pounds. The expansion of the thorax is much impaired; marked retraction of right clavicular fossæ. There is dulness over the entire right lung, the breath-sounds over the right upper lobe are harsh; there are numerous crepitant râles over the entire right lung; the vocal fremitus is very much exaggerated. The sputum contains a moderate quantity of tubercle bacilli. Temperature 100 F., pulse 108.

September 29: 60 cubic inches of nitrogen was injected into the right pleural cavity. There was marked dyspnea immediately, and profuse expectoration for three days after the injection.

October 14: Cough and expectoration are diminished, and the patient states that she feels much stronger; weight 101 pounds; temperature 99.3 F., pulse 108.

October 28: 90 cubic inches of nitrogen.

November 30: Temperature is 98.6 F., pulse 100; weight 105 pounds.

December 1: 90 cubic inches of nitrogen.

This patient has been examined repeatedly since her last operation. At present she coughs very little and expectorates only in the morning. She has gained in weight slowly, and at the time of the last examination weighed 107 pounds. The breath-sounds over the right lung are broncho-vesicular, but the râles have nearly disappeared. She now has an enormous degree of fibrosis of the right lung.

Case 14.—Mr. C. H., aged 27, was examined Sept. 19, 1898. His family history is free from tuberculosis. He has had a slight cough and a gradual but slight loss of weight during the last year. In June last he had three or four slight attacks of hemoptysis; another attack about September 1. There is relative dulness over the right apex, with scattered râles. Temperature is 99 F., pulse 85, respirations 20. Examination of the sputum showed the presence of tubercle bacilli. He weighs 165 pounds.

September 21: 130 cubic inches of nitrogen was injected into the right pleural cavity.

October 4: Considerable pneumothorax.

October 22: 117 cubic inches of nitrogen was injected; perfect pneumothorax.

November 8: Pneumothorax still persists; pulse 78, temperature 99 F.

November 21: Gas entirely absorbed; right lung is entirely normal, except for a few dry rhonci that are heard over the apex during both phases of respiration; pulse 88; temperature 98.5 F; there is still slight expectoration. Weight is 165 pounds. The sputum has been examined repeatedly with entirely negative results except for a leptothrix that is constantly present. The breath is rather fetid, and there is still some expectoration. These remaining changes are possibly due to the presence of the leptothrix, as its presence has been continuous throughout the entire time of treatment.

Case 15.—Mr. A. L., aged 30, was examined Sept. 19, 1898. There was no tuberculosis in the family. This patient has coughed during the past four years. He has lost 15 pounds in weight, and has had several slight attacks of hemoptysis.

In September, 1896, he had a severe attack of hemoptysis (about 3 pints). The left side of the chest is somewhat retracted, expansion diminished; breath-sounds are feeble and there are a few râles. The right lung expands much more than the left, but there is marked dulness over the left upper lobe. There are many crepitant râles over the right upper lobe. The sputum contains tubercle bacilli. Diagnosis: Partially healed fibroid tuberculosis in left lung and disseminated tuberculosis in right upper lobe.

September 20: 80 cubic inches of nitrogen was injected into the right pleural cavity. The following day the patient went back to his home in Montana. October 10, he writes as follows: "Weight 157 pounds, a gain of 2 pounds; cough very little, have no night sweats and my appetite is good. Pulse 80. I do not expect to gain much in weight as I am about as heavy now as I have ever been."

The patient has not reported since.

Case 16.—B. F., aged 29, was examined September 22. Her parents are living and in good health. Her husband died two years ago of a very rapid tuberculosis of the lung. She has coughed since December, 1897, but did not begin to expectorate until June, 1898. At present she coughs and expectorates very freely. She complains of afternoon fever and night sweats. There is dulness over the entire right lung and signs of cavity in the right upper lobe. Mucous and crepitant râles are scattered over the whole lung; scattered sibilant and a few crepitant râles over the left lung. Excursion over the right lung is diminished. I advised this patient to change climate, gave her the usual instructions as to diet and prescribed a combination of cod-liver oil, maltine and guaiacol. In a few days she appeared at the office and asked that we try the injection in her case. She felt that she could not recover if she were to rely upon medicine alone, and she could not afford a change of climate.

September 27: 110 cubic inches of nitrogen was injected into the right pleural cavity. Her weight at that time was 100 pounds; pulse 122; temperature 101 F.

October 7: She weighs 103 pounds.

October 19: 118 cubic inches of nitrogen was injected into the right pleural cavity. After this injection the cough diminished considerably.

November 19: 100 cubic inches of nitrogen was injected into the right pleural cavity. No change in pulse-rate nor temperature.

December 15: She weighs 106 pounds; expectoration is diminished; no night sweats; pulse 118.

Feb. 15, 1899: Pulse is 100; temperature 99.5 F.

April 12: Weight is 106 pounds. The cough and expectoration are now very slight; the temperature 98.6 F., respiration 24, pulse 90. There are scattered crepitant râles over the left upper lobe, very few râles over the right lung, over which the breath-sounds are quite tubular. At the last examination, on May 2, the pulse was 88, temperature normal; lung findings as at last examination.

CASE 17.—Mr. A. D., aged 38, was examined Sept. 23, 1898. His parents are living and in good health. His maternal grandfather died of tuberculosis of lung. Illness began in December, 1896, with an attack of hemoptysis, without preceding symptoms of pulmonary disease (over a pint of blood). He began to cough and expectorate profusely in December, 1897. He is emaciated, anemic; there is impaired resonance over the entire right lung, also mucous râles, which are more numerous over the right upper lobe. There are a few fine râles in the third right interspace near the sternum. Weight is 129 pounds (normal 150 pounds); temperature 100 F.; pulse 96.

September 23: 60 cubic inches of nitrogen was injected into the right pleural cavity.

October 8: He has gained five pounds in weight. Some absorption of gas has taken place, and the breath-sounds are again quite audible.

October 18: Weight is 137 pounds, a gain of eight pounds; pulse 102; temperature 98.6 F.

October 23: A second injection with nitrogen was attempted. The needle was inserted but the usual current of air through the needle could not be heard. The tube was attached and the patient instructed to take deep breaths. After two or three deep inspirations, about 3 cubic inches of nitrogen having passed through the needle, the patient said he felt weak; he became pale and went into a state of collapse. The respirations were stertorous, pulse slow and weak. The needle was withdrawn and the wound sealed. Stimulants were administered freely. As soon as the pulse improved slightly a careful examination was made. It was found that the entire right side of the body was paralyzed and, after the patient regained consciousness it was discovered that he had aphasia. The paralysis disappeared from the face in about twenty-four hours. About one month later motion returned in the leg, and at the end of three months there was slight motion in the arm. At present the face is entirely normal, the leg somewhat weak and spastic, and but slight motion in the arm. The pulmonary changes are now more extensive, the left lung having been subsequently involved in disease.

CASE 18.—Mrs. L. D., aged 24, was examined Sept. 28, 1898. Her family history is negative as to tuberculosis. Eighteen months ago, after an attack of measles, she began to cough and expectorate, and this has continued to the present time. Previous to her attack of measles she had an occasional cough, and two years ago, during a paroxysm of cough she expectorated several calcareous particles that were about the size of a split pea. This has occurred on two occasions since that time. There is dulness over the entire right lung, with signs of cavity over the left upper lobe anteriorly. There are mucous and crepitant râles over the entire lung; a few crepitant râles over the right apex. Weight is 103 pounds; pulse 120.

October 4: 70 cubic inches of nitrogen was injected into the left pleural cavity.

October 10: Cough and expectoration have diminished, temperature is 100 F., pulse 120.

November 3: There is considerable cough during the night; pulse, temperature, respiration and weight the same as at the previous examination.

November 4: 80 cubic inches of nitrogen was injected into the right pleural cavity; about a month later a third injection.

March 16, 1899: Patient's weight is 108 pounds. The signs of a cavity over the left upper lobe are much less pronounced; pulse 115; respiration 24. She has not reported in person since last operation. Her husband states that she coughs a little, has a good appetite, her color is much improved and the expectoration is very slight.

CASE 19.—Mrs. A. H., aged 30, was examined Sept. 28, 1898. Her mother died from some pulmonary disease. In December, 1897, she had an attack of influenza and was confined to her bed for three months. She coughed continuously with very slight expectoration. Since June, 1898, her voice has been harsh and husky. During the last three months there has been profuse expectoration; pulse 98; temperature 102 F.; respiration 24. There is dulness over the right upper lobe, with numerous mucous and crepitant rales.

October 1: 75 cubic inches of nitrogen was injected into the right pleural cavity. There was considerable pain and dyspnea. Pulse became quite rapid; temperature 101 F. As the result of the compression of the right lung the breath-sounds over the left lung became exaggerated and a few scattered râles could be heard.

November 5: 185 cubic inches of nitrogen was injected.

December 5: 94 cubic inches of nitrogen was injected.

Jan. 3, 1899: Patient's weight is 102 pounds (a gain of 11 pounds since first injection); pulse 100; respiration 20; temperature 99.4 F. Râles over the right upper lobe are still present. The mucous clicks and crepitant râles over the left apex are somewhat more numerous.

January 4: 80 cubic inches of nitrogen gas was injected. After the last injection the patient returned to her home in Indiana. She improved for several weeks and then developed, so she wrote, an attack of influenza and was confined to bed over two weeks. She has lost a few pounds in weight and coughs and expectorates somewhat more freely.

CASE 20.—Mr. C. S., aged 32, was examined Sept. 30, 1898. There is no tubercular history in his family. The first indication of pulmonary disease was an attack of hemoptysis in 1897. Previous to this time (two or three months) there had been a slight cough to which the patient had not attached any importance; since the attack of hemoptysis there has been a continuous cough and profuse expectoration of a thick purulent material. His present weight is 130 pounds (normal 155). There is considerable anemia and emaciation; dulness over the right upper lobe; crepitant and subcrepitant râles. Middle and lower lobes of right lung are free, as is also the left lung. The sputum contains tubercle bacilli in large quantities. There is a fistula in ano following an old periproctеal abscess; pulse 88; temperature 100.8 F.; respiration 20.

October 4: 82 cubic inches of nitrogen was injected into the right pleural cavity. There was considerable emphysema for three days after the injection. The cough diminished immediately after the injections and has been comparatively slight since.

October 19: Weight is 142 pounds.

November 7: Weight is 143 pounds.

November 11: A large quantity of gas was injected but no sign of pneumothorax developed and it was concluded that the gas had been injected into a small bronchus. The needle was reinserted and about 60 cubic inches of nitrogen injected, resulting in a moderate pneumothorax.

December 3: Weight is 143 pounds; pulse 86; temperature 99.5 F.; respiration 22. The patient at present coughs but very little and only in the morning.

December 6: A third injection was attempted; three different points were punctured, but the pleural cavity was found obliterated.

Jan. 5, 1899: Patient's weight 144 pounds; pulse 88; temperature 99.5 F.; respiration 24. The lung could not be compressed on account of pleural adhesions and patient was advised to go to a more suitable climate.

CASE 21.—Mr. N. D., aged 31, was examined Nov. 10, 1898. His parents are living, and there is no history of tuberculosis in the family. He has been sick nine years; has had attacks of hemoptysis, and has spent much of his time in Texas and California. Examination revealed considerable emaciation; respiratory movement diminished, more particularly on the right side; marked dulness over the right apex; relative dulness over the entire right upper lobe; crepitant and fine mucous râles over the entire right lung; a few scattered crepitant râles over the left upper lobe.

October 7: 60 cubic inches of nitrogen was injected into the right pleural cavity. This was followed by subcutaneous cellular emphysema which extended into the neck, abdomen and scrotum.

October 10: In spite of the gas that escaped into the cellular tissue there is still a marked pneumothorax; weight 100 pounds; temperature 99 F.; cough somewhat diminished.

November 22, 109 cubic inches of nitrogen was injected into the right pleural cavity; perfect pneumothorax.

December 22: Patient states that he feels somewhat stronger and more energetic and that the cough has diminished. Physical signs in the lungs have not changed.

Patient has not reported since Dec. 22, 1898.

CASE 22.—Mr. J. H., aged 24, was examined October 13, 1898. His father died of tuberculosis of lungs at the age of 35. One month ago he had an attack of acute bronchitis, and since that time there has been a continuous cough and expectoration of yellowish purulent material, slight fever and night sweats. Weight is 120 pounds. (Normal 126.)

October 1: Sputum was slightly blood-streaked.

October 7: He was examined by his physician, who stated that he had tuberculosis of the apex of the left lung. Seventy-five cubic inches of nitrogen gas was injected into the left pleural cavity. There was considerable dyspnea following the operation; pulse 96; temperature 99.1 F. A few days after the injection he went to Colorado.

CASE 23.—Mr. E. J., aged 29, was first seen Oct. 13, 1898. His father died of tuberculosis at the age of 39; one brother and one sister also died of tuberculosis. His illness began with a dry pleurisy in December, 1897. Since January, 1898, he has coughed and expectorated freely, the sputum has been blood-streaked repeatedly; he complains of feeling feverish in the afternoon but has no night sweats; weight 142 pounds. (Maximum weight 150.) He experiences occasional sharp pains in the left thorax. There is no dulness over the right lung, but a few crepitant râles are heard in the first and second interspaces near the border of the sternum. Respiratory movements of the left thorax are diminished; there is relative dulness over the entire left lung, which is more marked over the lower lobe anteriorly and laterally. Crepitant râles are heard over the entire lung, but are not numerous. Sputum was examined by Dr. Witherspoon who reported the presence of tubercle bacilli.

October 15: 155 cubic inches of nitrogen was injected into the right pleural cavity. There was considerable pain for ten or twelve hours after the injection; pulse 104; temperature 99.1 F.

October 31: Weight is 145 pounds; cough somewhat diminished; appetite good. He has had very little fever and no night sweats; temperature 99 F; pulse 100.

November 11: Weight is 147 pounds; pulse 70; temperature 98.6 F.

October 15: 80 cubic inches of nitrogen was injected into the left pleural cavity.

November 25: Weight is 147 pounds; temperature 98.6 F; pulse 75. There are now very few râles over the left lung. During the last week patient coughed up a calcareous body the size of a pea.

December 2: Weight is 149 pounds. He is coughing very little and feels much stronger.

December 9: Weight is 151 pounds; pulse 78; temperature 98.8 F; respiration 21.

February 20: Weight is 154 pounds. The patient's general condition is excellent, and he coughs but slightly in the morning.

April 24: Weight is 154 pounds; pulse 76; temperature 98.6 F; respiration 18. Sputum was examined at this time and no tubercle bacilli found.

CASE 24.—Mr. E. C., aged 35, was examined Oct. 29, 1898. His mother died of tuberculosis pulmonum. He began to cough fourteen months ago, and during the last two months has expectorated profusely; weight 130 pounds. He has a high afternoon fever and night sweats. Diarrhea developed three weeks ago. He is much emaciated, tall, slender, thorax retracted; dulness over the right upper lobe, over which are heard roughened breath-sounds and many crepitant râles. The left lung is normal. The abdomen is retracted, abdominal walls tense, and there is some tenderness to pressure. Weight is 133 pounds.

November 15: 170 cubic inches of nitrogen was injected into the right pleural cavity, but no signs of pneumothorax appeared. The gas must have been injected into a small bronchus. This patient was injected twice at the Dunning Hospital.

January 20, 1899: Weight is 131 pounds; pulse 110; temperature 100 F; respiration 24. Later the patient complained of more pain in the abdomen, the retraction became more marked, he gradually lost in weight and no report has been sent since early in April.

CASE 25.—Mr. D. S., aged 26, was examined Nov. 6, 1898. He has been sick one year. His family is free from tuberculosis. On June 26, 1898, after severe physical exertion, he had an attack of hemoptysis and spat up a pint of blood; had two slight attacks a few days later. These attacks of hemoptysis were followed by fever and night sweats, and his cough and expectoration have been profuse. Weight is 122 pounds; temperature 101.2 F; pulse 140. There is relative dulness over the right upper lobe, over which numerous mucous and crepitant râles are heard.

November 11: 122 cubic inches of nitrogen was injected into the right pleural cavity.

November 21: There is still a perfect pneumothorax; pulse 120; temperature 99.5 F.

December 9: 150 cubic inches of nitrogen was injected into the right pleural cavity.

December 20: Weight is 103 pounds. Patient feels somewhat stronger; cough is less; the expectoration, however, is quite profuse. The night sweats have subsided; temperature 99.8 F; pulse 110; respiration 25. Subsequently he developed an exudative pleurisy and no further injections were given. At last report he weighed 126 pounds, was coughing but slightly, although he felt very weak.

(To be continued.)

Therapeutics.

Calomel Injections in Elephantiasis.

Calomel injections into the thigh muscles in cases of elephantiasis are reported as having produced good results, by Dr. A. I. Pospelow, professor of dermatology and syphilography at Moscow. He injects an oily mixture of three-quarters of a grain of calomel in 15 drops of vaselin-oil every four days. Swelling of the limbs quickly went down. In one case an ulcer of the leg speedily cicatrized so as to allow the patient to walk without difficulty. Neither of the two thus treated had had syphilis or tuberculosis.—*Merck's Archives.*

Ichthyol in Renal Tuberculosis.

Goldberg, in the *Berliner Klinishe Wochenschrift*, refers to Palet's statistics and shows that of 136 cases of nephrectomy done for renal tuberculosis, fifty-one, that is 40 per cent., died, and that only one-third of those operated on lived over one year. This is due to infection of other organs. He recommends ichthyol internally.

℞. Ichthyol sulpho-ammoniac
Aquæ destillatæ, āā . . . ʒv

Ten to seventy drops in water three times a day after eating. The larger the dose the sooner the curative action. Besides causing a general improvement, the local action was good,—the hemorrhages ceased and the suppuration diminished, as did also the tenesmus and pain. It may be given for years.

Strychnin in the Senile Heart.

Nux vomica is an excellent tonic for the senile heart and its concomitants, but as its usefulness depends on its active principle, it is more advantageous and contributes to greater accuracy of the dosage to employ the liquor strychninæ hydrochloratis rather than any of the cruder preparations. The maximum benefit is only to be got from any drug by using the maximum dose for a sufficient length of time, and to do this safely with any remedy, but especially with so powerful a drug as strychnin, it is needful to be both accurate in the dosage and regular in the times of administration. Strychnin is cumulative in its action, but, by strict adherence to the rules laid down, it may be used continuously and safely for many years. I have known five minims of the liquor strychninæ—1/26 grain of strychnin—to be taken twice a day for over ten years, with the very best results; at the end of that time symptoms of saturation began to appear, and the strychnin had to be discontinued. . . . It is only rarely that a larger dose than five minims of the liquor strychninæ can be given daily with benefit; three such doses, fifteen minims instead of ten in the day, are generally followed by symptoms of poisoning in no long time. Idiosyncrasy occasionally turns up, and for this we must be prepared, but the dose indicated is the maximum dose administrable to by far the larger number of mankind, for any length of time at least. In anemic patients there is often an intolerance of strychnin, and if employed at all, it has to be given in almost infinitesimal doses. Strychnin acts in two ways: it is an admirable tonic for the stomach, especially in those catarrhal conditions accompanied with venous congestion, so commonly present when the circulation is feeble. In this way the digestion is improved and the blood enriched, so that the body generally, and the heart in particular, gets better nourished. Strychnin has also a specially stimulating effect on the nervous system generally; consequently it stimulates and renders more excitable the vasomotor center, and the cardiac ganglia, probably even energizing that primordial power of spontaneous movement possessed by the cardiac muscular fiber itself—a power which may be looked on as a remnant of the *vis insita*, the once diffuse, nervous force. In virtue of this action on the heart and nerve-centers, strychnin increases the cardiac force, raises the intra-arterial blood-pressure, and is—next to digitalis—the most excellent tonic we possess for all feeble and dilated hearts. In the less serious class of cases it is sufficient of itself to give tone both to the heart and the system generally, while in the most serious cases it is a most useful adjunct to digitalis. *"The Senile Heart:" George William Balfour, M.D.*

Myocarditis.

In acute diffuse myocarditis, absolute rest. Ice-bag to chest is grateful and beneficial.

FOR NERVOUS AGITATION.

℞. Elixir ammon valerian......................℥ii
Sig. Dessertspoonful repeated as required.
Or
℞. Sodii bromidi
Potassii bromidi, āā..........................ʒi
Aquæ ....℥ii
M. Sig. Teaspoonful repeated according to the effect.

IN EVIDENCE OF HEART FAILURE.

℞. Tinct. digitalis..........................m. viii
Tinct. Strophanthus.........................m. vi
Dose. Repeat every three hours.
Or
℞. Sparteinæ sulph..........................gr. 1/4
Caffeinæ ....gr. ii
For one pill or tablet.
R. Strychninæ ....gr. 1/20
Spiritus frumenti..........................℥i
Every two to four hours.
Or
℞. Spiritus ammon. aromatici.................ʒss-i
Or
℞. Liquoris ammon. acetatis..................ʒii-iii

—*Patton.*

Treatment of Fatty Heart.

R. Sodii arsenat............................gr. 1/64
Potassii iodidi............................gr. 3/4
Pulv. nucis vomicæ ....gr. 1/8
Pulv. rhei..................................gr. ¾
Ext. dulcamaræ..............................gr. iss
M. et ft. pil. No. i. Sig. One pill daily.

— 1. *Robin.*

In fatty heart dilatation of cavities and mitral regurgitation with anemia:

℞. Ferri reducti............................℈i
Pulv. digitalis fol. (Eng.)................℈i
Quininæ sulphatis...........................gr. x
Pulv. Scillæ................................gr. x
M. Ft. Massa et in pil No. xx div. Sig. A pill three or four times daily.

—*Bartholow.*

Treatment of Cystitis.

In the treatment of cystitis the constitutional as well as the local symptoms should receive the most careful attention. During the acute attacks the patient should be encouraged to take large quantities of water. All articles of diet—as asparagus, etc.—that act more or less as irritants to the bladder should be left from the diet list. The bowels should be moved with a saline cathartic, Epsom salts being the best, and the patient placed in bed if the case is a severe one. Opiates should be avoided as much as possible. The bromids, chloral, cannabis indica, or similarly acting analgesics, may be given as indicated for pain. In the very acute cases the bladder should not be treated locally, but, if the disease is first seen in its chronic or subacute stage, then most cases require, in addition to the constitutional treatment, a careful application of local remedies. This is best carried out by inspection through the cystoscope. As a local application a 20-grain solution of protargol three times a week is valuable. If the cystitis is of gonorrheal origin, nothing acts better than a saturated watery solution of picric acid applied directly to the inflamed surface. Some cases are much benefited by local application of 10 grains nitrate of silver, thrice weekly. Very weak solutions of permanganate of potassium have acted much better in the chronic cases, as an irrigating fluid, than boric acid solutions.—*A. H. Cordier: International Journal of Surgery.*

Nervous Gastralgia.

℞. Sodii bicarbonat..........................ʒiss
Tinct. nucis vom............................m. xl
Liq. morphinæ (gr. ii to ʒi)................ʒi
Spiritus ammon. aromat......................ʒiss
Syrupi zingiberis...........................℥i
Aquæ menth. pip. q. s. ad...................℥viii
M. Sig. ℥ss four times a day.

—*J. W. Martin.*

Severe Constipation of Dyspeptics.

℞. Podophyllin ....gr. v
Ext. nucis vomicæ
Ext. physostigmatis, āā.....................gr. viiss
Ext. gentianæ
Pulv. glycyrrhizæ, āā, q. s.
M. Ft. pil No. xxx. Sig. One pill twice daily.

—*Einhorn.*

Hayem's Artificial Serum in Malignant Syphilis.

Augagneur has employed injections of the following solution in two cases, with good results:

℞. Sodii chloridi........................ 7 parts
Sodii phosphatis......................... 2 parts
Aquæ ....1000 parts

M. Whether it acts by exciting diuresis or by promoting leucocytosis is uncertain, but the more pronounced are the fever and diuresis that follow, the more energetic is the therapeutic action. Augagneur gives four or five subcutaneous injections, of from twelve to fifteen ounces each, at intervals of five or six days.—*N. Y. Med. Jour.*

To Prevent Nausea Following Chloroformization.

Weber *(Bull. Gen. de Therap.)* says that the nausea after chloroformization may be avoided if the patient will take chloroform water for several weeks before undergoing operation, so as to accustom the system to it. His attention was called to this fact by the absence of nausea after operation in the case of two patients, who, on account of digestive disturbances, had taken chloroform water after each meal for several weeks. As the taste and smell of chloroform are repugnant to some persons, the following mixture is recommended:

R. Aquæ chloroformi ....℥vi
Spiritus menthæ pip.
Spiritus anisi, āā..........................m. iv
Filter after twelve hours.

Camphoric Acid for Night Sweats.

In the *Therapeutic Gazette* of March 15, 1899, Coston writes that he has successfully used camphoric acid for night sweats, particularly in debilitated conditions resulting from acute diseases, such as typhoid fever, etc. If the sweating is not checked the patient loses more from the profuse perspiration than is gained by the sleep. In these cases 20 or 30 grains of camphoric acid will effectually prevent sweating, so that the patient will awake refreshed. The effect of the drug is so lasting, that ordinarily the dose need not be repeated for several days, and never the same night. The remedy should be administered an hour before the sweating is expected to begin, and should be taken dry on the tongue, being washed down with half a glassful of water or sweet milk. It is insoluble in water, but soluble in alcohol; the alcoholic solution, however, is so intensely bitter that it is with difficulty patients can be induced to take it in this form.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Annals of Surgery, October.

1.—*Surgical Treatment of Hemorrhage from Gastric Ulcers. E. Wyllys-Andrews and D. N. Eisendrath.
2.—*Actinomycosis in Man, with Special Reference to the Cases which have been Observed in America. John Rührah.
3.—*Some Observations on Surgery of the Gall-Bladder and Bile-Ducts. William J. Mayo.
4.—*Observations on Surgical Anatomy and Methods of Cure of Inguinal Hernia. J. Coplin Stinson.
5.—*Method of Treatment for Restoration of Entire Tibia Necrotic from Acute Osteomyelitis. H. W. Cushing.
6.—*Some Experiments Relating to Sterilization of the Hands. Leonard Freeman.
7.— Sterilized Water for Operating Rooms. Dudley P. Allen.
8.— Strangulated Internal Hernia through a Mesenteric Hole. Louis J. Mitchell.

Archives of Pediatrics, October.

9.—*Urticaria of the Mucous Membranes, Especially in Connection with Asthma. Frederick A. Packard.
10.—*Increase of Weight in Infants Fed Artificially. Henry Koplik.
11.— Congenital Cystic Kidney with Report of Case. Edwin E. Graham. Pathologic Report. W. M. F. Coplin.
12.— Case of Parencephalus. George N. Acker.
13.— Report of Case of Anuria. A. C. Cotton.
14.— Clinical Diagnosis Chart and Record: A Guide to Bedside Diagnosis for use in Medical Schools and in Practice. Augustus Caillé.
15.— Angioneurotic Edema Involving the Tongue and Lower Lip. Charles Gilmore Kerley.
16.— Deaths in Children Under Five Years, in the Largest Cities in the State of New York. George W. Goler.

Post-Graduate (N. Y.), September.

17.— Management of Breast Milk. Augustus Caillé.
18.— Treatment of Chronic Eczema at the Babies' Wards. H. D. Chapin.
19.—*Gastric Diseases in Childhood. Andrew Von Grimm.
20.— Three Cases, Presenting Indications of Addison's Disease, during Infancy and Childhood, with Postmortem and Histologic Reports on Two. Charles O. Maisch.
21.— Preparation and After-Treatment of Children for Operation. Frederic N. Wilson.

Southern Practitioner (Nashville, Tenn.), October.

22.—*Cerebrospinal Meningitis. Deering J. Roberts.
23.— Blood Vitality—Blood Integrity—Blood Purity. J. H. Cooper.

Southern Medical Journal (La Grange, N. C.), September.

24.—*Notes on Treatment of Suppurating Bubo. H. A. Royster.
25.— Treatment of Acute Dysentery, with Report of Cases. Robert C. Kenner.

Journal of Cutaneous and Genito-Urinary Diseases, October.

26.—*A Maculo-Anesthetic Lepride of the Palm. Douglass W. Montgomery.
27.— Report of Case of Congenital Dermatitis Herpetiformis and Almost Complete Absence of Finger and Toe-Nails. S. Sherwell.
28.—*Report of Cases Showing Unusual Situations for Lodgment of Gonococcus. George K Swinburne.
29.— Case of Urticaria Pigmentosa. Arthur A. Small.

Illinois Medical Journal (Springfield), October.

30.—*Remarks on Diagnosis of Locomotor Ataxia. Hugh T. Patrick.
31.—*Acute Anterior Poliomyelitis. Elbert Wing.
32.— Treatment of Scarlet Fever. H. S. Worthly.
33.—*Rational Therapeutics. R. H. Henry.
34.—*Malignant Tumors of the Eye. Wm. H. Wilder.
35.— Unrecognized Smallpox. J. A. Egan.

Memphis Lancet, October.

36.—*Clinical Types of the Uric Acid Diathesis. I. N. Danforth.
37.—*Clinical Study of Sunstroke. Edward D. Mitchell.
38.— Case of Peliosis Rheumatica. I. A. McSwain.
39.— Case of Papilloma of the Soft Palate. Richmond McKinney.

Buffalo Medical Journal (N. Y.), October.

40.— Malaria Complicating the Puerperium. George A. Himmelsbach.
41.— Some Medico-Legal Aspects of Trauma in Relation to Diseased Cerebral Arteries. William C. Krauss.
42.— Edema. Stephen Y. Howell.
43.— Rhinophyma. Ernest Wende and G. W. Wende.
44.— Partial Atresia of the Urethra. W. H. Heath.

Clinical Review (Chicago), October.

45.— Clinical Lectures on Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
46.— Acute Anterior Poliomyelitis. Henry M. Lyman.
47.— Lectures on Gunshot Wounds. Chas. B. Nancrede.
48.— Clinical Lectures on Obstetrics and Gynecology. Hemorrhage After Labor. Denslow Lewis.
49.— Four Plastic Operations Performed by N. Senn. W. W. Meloy.

Brooklyn Medical Journal, October.

50.—*Observations on Organization and Work of Medical Department of Seventh Army Corps. G. R. Fowler.
51.—*Remarks on Pathology of Nasal Septum. J. Wright.
52.— Glycerinated Vaccin Virus and Its Preparation. H. Wallace.
53.—*Incompleteness of Vaginal Speculum. J. E. Langstaff.
54.— Perforating Gunshot Wound of Right Thigh with Injury to Femoral Artery. F. W. Wunderlich.
55.— Notes on Uterine Hemorrhage. L. G. Langstaff.

Annals of Otology, Rhinology and Laryngology (St. Louis, Mo.), August.

56.— Bacteriology and Histology of Ozena. V. Cozzolino.
57.— Laryngeal Chorea (?) of Reflex Nasal Origin. Report of Case. J. A. Stucky.
58.— Report of Case of Acute, Purulent Endomastoiditis Developed in the Course of a Chronic Otorrhea; Followed by an Extradura-Abscess with Sloughing of the Dura Mater: Metastatic Abscess of Lung and Spontaneous Evacuation of Cavity: Recovery. P. M. Payne.

Kansas City Medical Index-Lancet, October.

59.— Clinical Side of Influenza. J. S. Triplett.
60.— Treatment of Diabetes Mellitus. Milton P. Creel.
61.— Electricity as a Therapeutic Resource for the General Practitioner. W. T. Herdman.
62.—*Review of Recent Advances in our Knowledge of Anatomy and Physiology of Nervous System. John Punton.

Medical Standard (Chicago), October.

63.— Surgical Cases, Cook County Hospital. Albert I. Bouffleur.
64.—*New Method of Eliciting the Subclavian Murmur. Albert Abrams.
65.— Surgical Treatment of Urethra in Old Men. D. R. Greenlee.
66.— Modern Treatment of Typhoid Fever. H. E. W. Barnes.
67.— Acute Gastro-Enteritis. H. C. Burcham.
68.—*Common Toad as Vehicle of Typhoid Fever. G. Law.
69.— New Remedies. J. F. Purviance.
70.— Eczema and Its Treatments. J. H. Hull.

Southwestern Medical Record (Houston, Texas), September.

71.—*Hypermedication. R. W. Knox.
72.— Auto-Intoxication as the Cause of Fever. Some Remarks on the Treatment. F. B. King.

Texas Medical News (Austin), September.

73.— Squamous Palmar Syphilide. A. H. Ohmann-Dumesnil.
74.—*Phonendoscope in Diagnosis of Foreign Bodies in Trachea. Edgar Doak Capps.

Northwestern Lancet (St. Paul, Minn.), September 15.

75.— Recent Advance in Gynecology. C. A. Stewart.
76.—*Perineo-Vaginal Incisions for Threatened Rupture of the Perineum. L. A. Fritsche.
77.— Observations on Inguinal Hernia. H. L. Staples.
78.—*Policy of State Sanitariums for Consumptives. R. M. Phelps.
79.— Care of the New-Born. Helen W. Bissell.
80.— Report of Fatal Case of Embolism with Autopsy. W. T. Adams.
81.— Neuroma of the Median; Removal and Restoration of the Function. A. W. Dunning.
82.— The Part of the Operating Room in Modern Surgery. Franklin Staples.

The Medical Fortnightly, October 2.

83.— Structural Varieties of Enlarged Prostate Relative to Treatment. Reginald Harrison.
84.— Etiology of Tubercular Hemoptysis. Thomas Linn.
85.— Differential Diagnosis of Smallpox. William Thomas Corlett.
86.— Nosophen and Antinosin. William A. Mann.

Pediatrics (N. Y.), October 1.

87.—*Enlarged Glands in Children. Carl Ludwig Schleich.
88.— Absence of the Fibula. Henry Ling Taylor.
89.— Case of Hemiplegia in a Child. Frank P. Norbury.

American Practitioner and News (Louisville, Ky.), August 15.

90.—*Treatment of Lobar Pneumonia. John G. Cecil.
91.—*Hernia and Its Operative Treatment. J. L. Johnson.
92.— Some Cases in Country Surgery. Chas. W. Aitken.

Medical News (N. Y.), October 14.

93.—*Absorption of Uncomplicated Immature Cataract by Conjoined Manipulation and Instillation. Richard Kalish.
94.—*Present Status of our Knowledge of Chlorosis. Thomas S. Southworth.
95.—*Histology of Dupuytren's Contraction of the Palmar Fascia: Report of Microscopic Examination in Two Additional Cases. J. B. Nichols.
96.—*Treatment of Suppuration of Middle Ear with Acetanilid. George F. Libby.

New York Medical Journal, October 14.

97.—*Plea for More Frequent Digital Exploration of Uterine Cavity, and Histologic Study of Uterine Scrapings as Aid to Diagnosis of Diseases of the Uterus. William E. Swan.
98.—*Septic Thrombo-phlebitis as a Complication of Peritonsillar Abscess. Report of Two Cases. M. R. Ward.
99.— Report of Cases of Peritonsillar Abscess Associated with Diphtheria. Thomas Hubbard.
100.—*Nasal Stenosis. Burton S. Booth.
101.—*Course and Prognosis of Chronic Spinal Neuritis. Arthur Conklin Brush.
102.—*Gangrene of Lung, With Report of Two Cases. A. H. Levings.
103.—*Relation of Stomach to Non-pregnant Uterus. Frank H. Murdoch.

Medical Record (N. Y.), October 7 and 14.

104.—*Important Points Regarding Perfection of Asepsis. Carl Beck.
105.—*Surgical Treatment of Gall-Stones. Frank C. Ferguson.
106.—*New Method of Reducing Old Dislocations of Lower Jaw. Theodore A. McGraw.
107.— Supplementary Note on Etiology of Scarlatina. W. J. Class.
108.— Pulsatory Hand and Foot Phenomena. W. Moser.
109.— Anomaly of Long Tendon of Biceps Muscle of Arm. Joseph D. Craig.
110.— A Tack in the Lung for Seven Years. Andrew V. Jova.
111.— Empyema, Sacculated between the Heart and Lung. William S. Dodd.
112.— Severe Case of Eclampsia Complicated by a Marked Erythema Multiforma. James D. Voorhees.

113.— Excision of Hip: with Skiagraph Taken after Five Years. A. E. Isaacs.
114.— Bullet Wounds of Intestine; Operation; Recovery. George Sherrill.
115.— The Dracunculus Medinensis. John Patterson.
116.— Typhoid Perforation in a Case in which the Widal Reaction was Absent. Thomas W. Jackson.
117.— Wood Pulp as a Material for Poultices and Surgical Dressings. Frederick T. Gordon.
118.—*Contribution to Study of Gastric Crises of Tabes. Seymour Basch.
119.—*Ventral Fixation of Round Ligaments for Retroversion and Prolapsed Uteri. A Monae Lesser.
120.— Interesting Case of Hydrochephalus with Pseudo-Spastic Spinal Paralysis. Frederick Strange Kolle.

Cincinnati Lancet-Clinic, October 7 and 14.

121.—*Lichen Ruber Planus. M. L. Heidingsfeld.
122.— My Early Years in the Practice of Medicine. Geo. J. Monroe.
123.— Removal of Both Mammary Glands for Carcinoma. E. C. Brush.
124.—*Intoxicants: Alcohol and Alcoholism. Orpheus Everts.

Boston Medical and Surgical Journal, October 5 and 12.

125.— Treatment of Cerebral Tumors. P. C. Knapp.
126.—*School Seats. E. H. Bradford.
127.— The Boston Dispensary Clinic in Mental Diseases. A. C. Jelly.
128.— Division of a Ureter with Successful End-to-End Suture of Same in Case of Horse-Shoe Kidney. D. P. Allen.
129.— Erosions of Cervix Uteri. F. H. Davenport.
130.— Treatment of Cerebral Tumors. P. C. Knapp.
131.— Resection of Cecum and Portion of Ileum for Carcinoma. F. W. Johnson.
132.— A Tumor of the Labium. E. L. Twombly.

Philadelphia Medical Journal, October 7 and 14.

133.—*Finsen's Phototherapy. V. Bie.
134.—*Report of Case of Acromegaly, with Special Reference to the Eye-Symptoms. Wm. M. Leszynsky.
135.— Success of Operative Treatment of Facial Disfigurement. J. B. Roberts.
136.— Clinical Cases and Interesting Ideas. S. F. Brothers.
137.—*Specimen of Cyclocephalus. J. C. Falk.
138.— Is the Use of Tobacco Detrimental to Mankind? T. H. Marable.
139.— A Pneumatic Sigmoidoscope. Wm. V. Laws.
140.— Non-tuberculous Infectious Process in Bone. Arthur L. Chute.
141.—*Colloid Cancer of the Abdomen, and Its Significance Relative to Infection. E. D. Ferguson.
142.— Locating Foreign Bodies in the Eye; Results of Two Years' Work with Röntgen Rays. William W. Sweet.
143.— Case of Congenital Deficiency in Both Clavicles. W. F. Hamilton.
144.— Clinical Cases and Interesting Ideas. Samuel F. Brothers.
145.—*Preliminary Report of Case of Acute General Septic Peritonitis Treated by Continuous Irrigation with Warm Normal Salt Solution. Ernest Laplace.
146.—*Simple Method to Distinguish the Colonies of Typhoid Bacilli from Coli. J. A. Case.

Medical Review (St. Louis, Mo.), October 7 and 14.

147.—*Specimen of Cyclocephalus. J. C. Falk.
148.— Antitoxin in Treatment of Diphtheria. B. H. Portuondo.
149.—*Vesicorectal Anastomosis. Jacob Frank.
150.— Some Diagnostic Points in Heart Diseases, Especially in Infancy and Childhood. W. L. Johnson.
151.—*An Arm Saved after Being Run Over and Crushed by a Railway Locomotive. S. L. Kilmer.

Maryland Medical Journal (Baltimore), October 7 and 14.

152.— Case of Polymorphism. Henry A. Robbins.
153.—*Old Age and the Modifications in the Course of the Ordinary Diseases when they Attack the Aged. Marvin E. Nuckols.
154.— The Long Ago, Yesterday, and Today—Prescriptions of 1859, 1879 and 1899 Compared. Henry P. Hynson.
155.— Neuralgia in the Left Eye Following La Grippe. T. Chalmers Peeble.
156.—*Acute Inflammation of the Middle Ear. How Shall We Treat It? H. O. Reik.
157.—*Sarcoma of the Choroid. James J. Mills.
158.—*The Rubber-Finger Cot in Obstetrics. A. K. Bond.

AMERICAN.

1.—See abstract in Journal, June 3, p. 1256.

2. **Actinomycosis in Man.** Ruhräh's paper is a general discussion of the history of actinomycosis in the human species, and an analysis of some of the cases that have been reported. He gives credit to J. B. Murphy for reporting the first case in man.

3. **Surgery of Gall-Bladder.**—The experiences with 105 operations on the gall-bladder and bile ducts are reported by Mayo, who employs, latterly in most cases, the Bevan incision, which gives a larger space for work in this operation and is easier of closure. The so-called ideal operation is not recommended and was not employed. He does not attempt to free the adhesions generally, as they usually disappear in time if the cause is removed. In cases where a contracted gall-bladder is found deep under the liver, so that it can not be sutured into the wound, he uses two or more long sutures of fine catgut passed through the wall of the gall-bladder below the opening, with a well of gauze strips two inches in width, made by passing one or more doubled thicknesses down just outside of the gall-bladder and tying them in place with catgut sutures. The side of a rubber drain is caught at a little distance from its extremity, by one of the threads of catgut on a needle, and the tube is then passed into the gall-bladder and tied in place. This firmly anchors the drain in position and prevents displacement. The external incision is partly closed up to the drainage, in the usual manner. He has found this a very satisfactory method in such cases. He thinks cholecystectomy should be more freely employed, and says: "Considering that the mucous membrane is the only part of the gall-bladder which gives rise to after-trouble, we have during the past year, in three cases, opened the gall-bladder and removed the mucous membrane to the cystic duct; at this point the mucosa is cut across, part at a time, and one or two bleeding points caught with forceps and tied, the duct being left open. The muscular and peritoneal coats are sutured into the incision and drainage established in the usual manner. It is surprising how easily this can be accomplished. The mucous membrane is tough and separates from the muscular coats readily. The adhesions to the peritoneal coat are only separated enough to explore the ducts. It does not require a long incision, nor does it necessitate prolonged manipulation, and yet, the essential part has been removed to the same extent as in the usual cholecystectomy. This modified operation adds little to the risks of an ordinary cholecystotomy."

4. **Inguinal Hernia.**—After discussing and describing the various operations for inguinal hernia, and especially an operation devised by himself and published in the *N. Y. Medical Record* in March, 1896, Stinson concludes as follows: From a study of the cases cited and comparisons of the methods used by various surgeons, he can only draw the following conclusions: 1. With careful antiseptic and aseptic precautions, provided the operator is skilful and familiar with special anatomic and pathologic conditions associated, an operation for the cure of hernia has a mortality at or about *nil*, or less than that associated with the condition previous to the operation. 2. Sterilized chromicized tendon, or in its absence, carefully chromicized catgut, is the most suitable material for buried sutures. 3. In closing the wound: *a*, the internal ring should be closed by sutures, placing the spermatic cord next to the pubic bone; *b*, the internal ring should be reinforced and the canal closed by sutures by uniting the internal oblique and transversalis muscles and their conjoined tendon to Poupart's ligament; *c*, the cut edges of the external oblique aponeurosis and the pillars of the external ring should be sutured so that the pillars snugly embrace the cord. 4. In the great majority of cases the patients are cured by operation. 5. The operation described: *a*, restores the structures firmly and durably to their normal positions, relations and uses; *b*, has all the advantages of the other methods of operation, but none of their disadvantages; *c*, having many additional advantages, and fulfilling all the indications for a radical cure, should be followed by the best results.

5. **Osteomyelitis.**—Cushing here describes a case of removal of the shaft of the tibia, and, summarizing, the indications for treatment in cases of acute osteomyelitis are: 1. To save the patient's life and relieve pain by immediate operation to establish free drainage. The medullary cavity should be opened, pressure relieved, and infection checked. 2. If the bone is killed, as it usually and rapidly is in a few days, it should be removed. 3. The most favorable time for its removal is when the periosteum and granulation tissue is in its most active and regenerative stage, but before the process of calcification of the bone trabeculæ have shut the sequestrum within a compact, dense shell of involucrum. 4. This point is to be determined by frequent examinations of the sections of the periosteum with the microscope. It is shown by the presence of numerous fibroblasts, osteoblasts, and small trabeculæ in which lime salts are beginning to be deposited. 5. Clinically it can be recognized by the slight crackling sensation as the periosteum is incised, probably due to the crushing of the trabeculæ by the knife. 6. The periosteum at this stage resembles granulation tissue in color, density and vascularity. There is no macroscopic appearance of ossification. Bone will be formed from this elastic, flexible, periosteal layer. 7. This stage in this case was probably reached in the seventh to eighth week of the disease. 8. At this stage the necrotic bone should be removed by

incising the periosteum in the long axis of the leg and shelling out the sequestrum. 9. The periosteal sheath remaining should be closed by suture, leaving a solid cord or mass of periosteum buried in the center of the leg when in its most active bone-producing condition. 10. If areas of calcification of any extent or thickness are found adherent to the inner surface of the periosteal sheath, they should be dissected off. 11. The soft parts and skin superadjacent can be closed by suture. 12. The utmost care and most efficient means should be used to render the operation an aseptic one, for primary union is important. 13. The new bone is formed rapidly, apparently in eighteen to twenty-four days, when the operation is done at the time above indicated. At this time ossification is so advanced that the new bone is rigid. 14. If the operation is done too early, the growing periosteum is apparently injured, and its growth interfered with. 15. If too late, a rigid bony involucrum makes the removal of the sequestrum more difficult and forms a cavity which is very difficult to close. 16. It is demonstrated by the radiograph that the medullary cavity is reformed in the new bone. 17. The shaft of the bone is easier to restore than the epiphysis.

6. **Sterilization of the Hands.**—This article reports experiments made by Freeman as to the effects of methods of hand sterilization, and he concludes with the following propositions: 1. None of the methods of sterilizing the hands can be absolutely depended on. Many positive results are arrived at by means of faulty experimental technic, the culture-media becoming impregnated with antiseptics, the skin temporarily hardened by alcohol, formalin, etc., or the hands not subjected to sufficient maceration and friction in the culture-medium. 2. Under circumstances where it seems desirable to do so, much may be accomplished by sweating the hands in a hot-air oven, by wearing rubber gloves for some time prior to an operation, or by immersing the gloved hands in hot water. Mere prolonged soaking in very hot water, although not so effective as dry hot air, must have some favorable effects. It is difficult to understand, however, how the sweating method can dispose of all the microorganisms beneath the nails. The procedure will hardly be extensively employed, owing to its inconvenience. 3. Excessive brushing of the nails, as much even as the sensitive tissues will tolerate, seems merely to stir up the bacteria when carried beyond a certain point. We can hope to accomplish little by this means. 4. So far, the only really reliable means of rendering the hands aseptic is to incase them in sterilized rubber gloves. But if the gloves become torn, as they often do, the danger of infection is considerable, owing to the bacteria which have accumulated beneath, from perspiration. Coating the hands with various substances has been tried and found ineffectual. Cotton gloves, although they soon become contaminated by exudates from the skin, probably do some good, especially if frequently changed, by filtering out the bacteria, as it were, and preventing their entrance into the wounds.

9. **Urticaria of Mucous Membranes.**—Packard reports three cases of urticaria associated with asthmatic symptoms, and discusses the literature of the condition. He finds, in thirty-four cases from the literature, a close relation between the skin lesions and the respiratory symptoms. The order of occurrence is not uniform, and while in many cases there seems to be a balancing between the cutaneous and respiratory lesions, yet the two systems are frequently involved at the same time.

10. **Infant Feeding.**—Koplik presents the results of studies on the increase of weight in artificially-fed infants, showing the variations by tabulated statements. He finds that the partial feeding of infants by the breast is of great advantage, and that they increase in weight faster than those totally fed artificially.

19. **Gastric Diseases in Childhood.**—This paper covers clinical lectures delivered by the author, and comprising: functional diseases, dyspepsia, acute and chronic gastric catarrh, febris gastrica, dilatation of the stomach, congenital stenosis of the pylorus, gastritis toxica.

22. **Cerebrospinal Meningitis.**—Roberts' article is quite a thorough discussion of the subject, and in his remarks on treatment he advocates full and free venesection as early as the disease is diagnosed, calomel in 1/2-grain doses every half hour until 2 or 3 grains are taken, then a saline laxative and an enema if necessary. When these have taken effect he gives a full hypodermic dose of morphin and atropin, to an adult, repeating it as indicated to secure quiet and comfort as far as possible. Cold is applied to the head and spine, and if effusion has occurred and we can keep up the vitality of the patient, he gives iodid of potash in full doses. If vomiting is an early symptom, a drop of croton-oil in place of the saline after the calomel will be apt to give good results. He does not worry about temperature below 103, and is doubtful as to lumbar puncture, though he has not had experience with it. If the dangerous symptoms subside, morphin is replaced by bromids and chloral in connection with the iodid. The bladder must be looked after, the amount of urine kept for inspection at each visit, and the catheter used if necessary. He thinks inunctions of the unguentum Credé would not be likely to do harm and may possibly be useful.

24. **Treatment of Suppurating Bubo.**—Royster describes the following method of treatment of this condition: He washes the skin over the affected part, with soap and water, then with alcohol, followed by a 1/2000 bichlorid solution, using cotton mops for the application. Then a small incision, not over one-half inch in length, is made over the softest and most projecting point, with a sterilized bistoury, and pus evacuated. Peroxid of hydrogen is then injected until it ceases to produce gas, the excess being washed out by the bichlorid solution. After thoroughly drying the parts, a 10 per cent. ointment of iodoform and vaselin, which has been liquefied by heat, is introduced to fill and distend the abscess cavity, in which it quickly solidifies. To facilitate the solidifying a large piece of cotton wet with a cold bichlorid solution is applied over the opening. A pad of dry cotton on this, and a bandage, complete the dressing. Usually this does not have to be changed, for in a week the suppurating cavity may be found to be obliterated. In over a dozen cases thus treated the dressing was not disturbed until it was finally removed, and the patients were up and about within two days. He thinks the advantages of this method are as follows: It is comparatively painless; it avoids long confinement to bed and repeated dressings; it can be done anywhere, and the results are good. He has tried it in other varieties of abscess in different regions and finds it equally useful. Other substances than iodoform may be used in the ointment.

26.—**Lepride of the Palm.**—Montgomery describes and illustrates the case of a boy who suffered from a lesion of maculo-anesthetic leprosy of the palm of the hand, together with corresponding lesions on the back and elsewhere. Search for the bacilli, however, was unavailing, as is often the case in this special form of the disease. The only other instance he has been able to find of this special lesion is in the two cases reported by Von Bergman, though tuberculous leprosy has been observed in this situation.

28. **Lodgment of Gonococcus.**—Swinburne reports four cases of infection of para-urethral and mucocutaneous follicles and follicle at the frenum, by the gonococcus. In the two para-urethral cases, infection showed itself by a pustule occurring within a very short time after infection, and before the disease in its ordinary form had appeared. The others were of later appearance and one case had given rise to a false diagnosis of chancre.

30.—See abstract in Journal, May 27, p. 1172.

31.—Ibid.

33. **Rational Therapeutics.**—Henry discusses the subject of inebriety and its treatment, the question of degeneracy, the advances in therapeutics, and suggests at the close that there should be a law compelling the keeping of a family register giving a complete personal record of each member of a family with all his defects and acquired vices, and all latent family peculiarities that can be discovered by the physician. Such a record kept through many generations would be invaluable. Then when parties wish to marry, the judges should appoint a board of physicians who should examine their family record and make a thorough and unbiased investigation before the license would be given. He thinks such a law and a law to unsex habitual criminals and possessors of incurable transmissible diseases would rapidly improve the moral, physical and intellectual tone of society, and would eradicate some of our worst diseases, such as tuberculosis, insanity, epilepsy, etc.

34.—See abstract in Journal, May 27, p. 1174.

36. **Uric Acid Diathesis.**—According to Danforth, lithemic

patients fall into three groups, which he here describes. By a lithemic patient he understands one whose urine is habitually strongly acid, high colored and of high specific gravity, now and then slightly albuminous, with mucin and occasionally small hyaline casts, and which deposits uric acid or mixed urates and perhaps oxalates on cooling. Such patients complain of their liver, of indigestion, constipation, have coated tongues, foul breath, etc. The first of these types he calls the plethoric. The patients are mostly middle-aged, active business men, frequently overworked. He reports a case and discusses the kidney symptoms, calling attention to a paper read by him on catarrhal nephritis, in 1885, which has received little attention, but in which he described what he still believes is a chronic catarrhal condition of the renal tubules entitled to consideration as a distinct pathologic entity. Besides this condition he also thinks there exists in these cases a certain degree of interstitial hyperplasia of the kidneys and liver not resulting in true interstitial nephritis. Still another pathologic factor is the constant presence of lithic acid and some xanthin compounds, which has much to do with this irritative hyperplasia. The second type is the neurotic or nervous. This presents the same dyspeptic symptoms as the former, but the subjects are often considered as simply neurasthenic. The third group is the anemic, in which there is slight albuminuria and a few casts, and frequently a tendency to temporary melancholic depression, with general gastro-intestinal symptoms. The patients are mostly women overworked mentally or physically. He thinks we often make an error in overlooking the lithemic element in these cases. The treatment of these types varies. In the plethoric type the vigorous use of antilithics and cholagogues for a considerable period, and in lessened doses thereafter, and a non-nitrogenous diet are required. In the neurotic type change of scene, neuro-tonics and rest; and in the anemic type, which is most difficult to treat, the use of antilithics in small doses should precede the use of tonics, and he is much given to the use of caffein preparations in this class. Iron is badly borne, but phosphate salts and strychnin are useful, and manganese sometimes very valuable.

37. **Sunstroke.**—Mitchell considers sunstroke as due to disorders of the heat centers of the medulla and both heat exhaustion and insolation are but different manifestations of the same general condition. Forty-one cases came under his care in the summer of 1898, 23 of thermic fever and 18 of heat exhaustion. Of the 41 cases, 6 died, only one of these being a heat exhaustion case. The immediate cause of death in 4 was failing circulation causing pulmonary edema; 2 died of collapse of the lungs. The complications were: convulsions, marked in 4 cases, mild in 7; cerebrospinal meningitis varying in severity, and the before-mentioned lung collapse, probably due to pulmonary embolism. The sequelæ so far as observed were practically *nil*, though he thinks if the history could be traced, after-consequences would be found in the majority. Alcoholic cases and fleshy and powerful men seemed to be the most frequent subjects of thermic fever, while women, and thin and old men suffered most from heat exhaustion. He describes the symptoms and treatment. The first thing in the treatment is to reduce the temperature, best accomplished by ice-baths and applications. The next is the physiologic salt solution, and he lays special emphasis on the benefits thus derived, giving the credit for its suggestion to Dr. F. A. Packard of Philadelphia, though he claims he was the first, himself, to practically employ it. As regards bleeding, he thinks it will often bring instant relief by overcoming congestion and removing some of the toxic elements, but its use requires discrimination and care. Ice-water enemata can not be too highly extolled and should be used in conjunction with the ice bath. Antipyretics were only used in mild cases when the ice bath was not required. Aconite was employed with advantage when the pulse was full and the heart in a nervous storm. If necessary, cardiac and respiratory stimulants, such as strychnin and cocain must be used freely, controlling the resulting spasms with chloroform.

50. **Spanish War Experiences.**—Fowler gives a readable account of the work of the medical department of the 7th Army Corps during the Spanish-American War. He speaks strongly of the sanitary carelessness of the Spanish authorities in Havana, though he praises their methods of record keeping. He gives also an interesting account of a Cuban insurgent hospital visited by him, and a visit to the insane asylum at Mazzaro, Cuba, which was found in a terrible condition.

51. **Pathology of Nasal Septum.**—After noticing certain rudimentary structures of the nose, such as the organ of Jacobson, Wright calls attention to the erectile tissues of the nose and its connection with the sexual organs and the reflex relation of the nasal and genital organs. In conclusion he briefly mentions the papillomata, angiomata and sarcomata occurring in this locality, and the septal spurs and deviations.

53. **Uterine Hemorrhage.**—Langstaff describes cases of uterine hemorrhage, and suggests the possibility of such accidents being due to abnormal or diseased conditions of the adnexa or of the ovary alone.

62. **Nervous System.**—In this lecture, Punton considers reflex, trophic, secretory, mental or psychic symptoms, etc.

64. **Subclavian Arterial and Venous Murmur.**—The nature, mechanism, anatomic conditions and causes of subclavian arterial and venous murmurs are here noticed by Abrams. From an examination of a large number of patients he formulates the following conclusions as to its mechanism: 1. The subclavian arterial murmur is an independent—autochthon—and rarely a transmitted murmur. 2. Its point of maximum intensity is the fossa of Mohrenheim, with feeble tendency to propagation. 3. It is heard most often on the left side, less frequently on both and least frequently on the right side. In order of frequency it is heard at the height of inspiration, at the end of expiration and after momentary suspension of respiration. 4. It is usually a succession of murmurs uniform in character and intensified by certain maneuvers, notably deep inspiration, forced expiration, suspension of respiration and voluntary stretching of the neck. 5. One of its chief characteristics is its momentary duration, disappearing usually after a few deep inspirations. 6. Its dependence on the phases of respiration distinguishes it from all transmitted murmurs. 7. It may be present at one and absent at a subsequent examination, and neither its character nor duration is ever uniform from one examination to another. 8. The position of the patient may influence its genesis, but this is never sufficiently uniform to be of practical value. 9. A phthisical lung is not specially propitious to its occurrence, as it is found nearly as often in healthy as in phthisical persons. 10. It was present in 36 per cent. of all healthy persons examined, advantage being taken in this enumeration of re-examinations and those propitious factors which determine its occurrence, viz.: respiration and decubitus. 11. The venous subclavian murmur was only heard in six individuals with a preponderance of its occurrence on the right side. 12. The arterial subclavian murmur could be artificially induced on the left side in nearly 80 per cent. of all individuals examined, and on the right in about 65 per cent. of the cases by a simple maneuver, viz: raising the arm gradually until it assumes a vertical position, while auscultating the Mohrenheim fossa during the time that the arm is brought to the latter position, the murmur suddenly appearing at some time during the execution of the movement. 13. By the foregoing maneuver the subclavian venous murmur could be induced on the right side in 43 per cent. of all persons examined. He advocates the following method for detecting it: Placing the pectoral end of the stethoscope in the fossa of Mohrenheim, we listen for the subclavian murmur. If the latter is not heard we slowly raise the arm of the patient corresponding to the side auscultated, until it is audible. The murmur may not be demonstrable until the arm is elevated to a level with the shoulder, or until it assumes a vertical position. This maneuver evokes the subclavian phenomenon by narrowing the lumen of the subclavian artery, for coincident with the elevation of the arm the radial pulse becomes less and less evident until, when the arm has attained the vertical position, the pulse is no longer palpable. This diminution in the pulse volume is more manifest on the left than on the right side. In a certain percentage of persons examined, the maneuver of raising the arm gives rise to a subclavian venous instead of arterial murmur, while in other persons both murmurs are distinctly audible. The soft, musical, continuous hum of the venous murmur can not be confounded with the arterial murmur. Like the artificial venous murmurs produced by pressure of one of the large veins by means of our stethoscope, so may the sub-

lavian venous murmur be explained, viz.: that by raising the rm we elevate the first rib, which in turn narrows the subclavian vein. The more frequent occurrence of the subclavian enous murmur on the right side is explained in the same way s we explain the increased frequency of the jugular venous urmur on the same side.

68. **Typhoid Fever.**—Law reports a case of a local epidemic f typhoid fever under conditions in which the origin was mysterious. The well was 180 feet deep and absolutely protected rom surface water, the physical difference of the well and surace water easily demonstrating this. There had been no cases f fever in the region for many months. The sanitary arrangenents were as perfect as could be expected in the situation, nd all measures that could be employed were taken to prevent he spread of the disease. Notwithstanding this, two cases ccurred in addition to those first involved, and finally portions f the skin and muscles of a toad were drawn from the kitchen ink. Examination of the well showed an opening through vhich the reptile might easily have fallen into the well, and he ccounts for the epidemic by assuming that the toad's diet of lies contained the typhoid germs. During the first week of he previous October a number of men were employed, and it is resumed that one or more of them might have been suffering rom the incipient stages of typhoid.

71. **Hypermedication.**—Knox's article is a general criticism f the tendency to overdo medication with antipyretics and athartics. He points out that fever is not in itself always a natter to be dreaded, and the laity should be educated to this act and not be drugged to excess. As regards cathartics, he elieves that we overdo their use, and that the public themelves are monomaniacs to a great extent on this subject.

74. **Foreign Bodies in Trachea.**—Referring first to the requency of the accident of foreign bodies in the trachea in hildren, and the symptoms, Capps calls attention to a new nethod of diagnosis of these bodies and their position by means f the phonendoscope. By using the small rod with the button on, the end that is recommended to be used in outlining the eart, etc., and placing it over the trachea at various points, he existence and location of the foreign body can be readily scertained. If, as often happens, it lies just beneath the ocal cords, allowing free ingress of air but preventing its free gress, the phonendoscope will convey the unmistakable clink r metallic sound produced by the sudden closure of the glottis. ny change of position of the foreign body can also be readily letermined in this way. He reports two cases in which this nethod was employed with success.

76. **Perineo-Vaginal Incision.**—Fritsche treats the subect of episiotomy, giving diagrams and describing technic. Ie concludes that these incisions are indicated: 1. In stenosis f the vagina from the causes already mentioned. 2. In igidity of the muscular structures of the pelvic outlet in old rimipara. 3. In the high forceps or version in primipara, vhen the presenting part has not had time to dilate the musular ring of the pelvic outlet and delivery is demanded. 4. n the occipito-posterior positions, when the occiput rotates nto the sacral cavity. 5. In narrowing of the pelvic outlet, vhich we have in the generally contracted, funnel-shaped, or yphotic pelvis, and when the transverse diameter is not narower than 8 cm.

78. **State Sanitariums for Consumptives.**—The questions roposed by Phelps are: 1. Is it best to have any sanitariums? 2. Should the state equip and conduct such a sanitarium? 3. Should such a sanitarium be located within the borders of he state? As regards the first question, he remarks that it s not so easily answered as might at first appear. The scare s to the contagiousness of consumption has, perhaps, gone too ar, and the result will be an increase of the severity of the misortune of those afflicted. He admits that a sanitarium would e a great advantage to the poorer classes, and he is inclined to nswer the question in the affirmative. The second question s to the function of the state is only answered in the affirmaive on the plea that we secure greater public safety by such n establishment under the care and at the expense of the state. The answer to the third question is modified by the consideraion of climate, and he suggests a combination and co-operation f different states in the foundation of consumptive colonies.

87. **Enlarged Glands in Children.**—The article by Schleich is an interesting discussion of the subject of enlarged lymph glands, and he offers some rather striking views in regard to them. He believes that the lymph glands may be defensive organs, and quotes instances where malignant infection occurred after their excision, evidently in close connection with this fact. He is inclined to think that they serve to produce immunity against certain diseases, and explains, for example, the acquired immunity to scarlatina and measles, by the closing up of the lymph radicles on the site of entry of the virus. Only in this manner can be explained the fact that children with acquired immunity to epidemic scarlatina may still contract surgical scarlatina. He thinks the direct danger to which we expose a given location of the body by removing its proper ganglia would be much more apparent were it not for the fact that total extirpation is in most cases impossible. He quotes from Manfredi, who has written in favor of this view, and argues that it is no longer justifiable to extirpate, off-hand, the lymph ganglia of given localities, the neck, arm-pits, groin, etc. He pleads for conservatism, especially in this line of surgery.

90.—See abstract in Journal, June 10, p. 1320.

91.—Ibid, p. 1321.

93. **Cataract.**—The subject covered by Kalish's paper is summarized by him as follows: 1. Immature cataract is due to local conditions dependent on general systemic causes. 2. Senility is rarely a direct, but may be a predisposing, cause. 3. Fluids containing perverted aliments resulting from defective metabolism supplied to the lens through its nutritive stream may be considered an exciting cause. 4. Deficient blood-supply, thus reducing the quantity furnished, may be considered a contributing cause. The following conclusions may be drawn: 1. Immature cataract may be regarded as a largely preventable disease. 2. It may, by properly directed treatment, local and constitutional, be prevented, arrested, retarded or cured. 3. The circulation of the blood must be regulated. 4. The faulty digestion may be rectified. 5. Constant supervision of the eye must be maintained by a competent ophthalmologist, that eye strain be relieved, and all changes in refraction be promptly remedied. 6. Treatment by conjoined manipulation and instillation should be instituted at the earliest possible moment. 7. Finally, if local and constitutional treatment should not provoke a favorable issue they will establish a more nearly normal state of the ocular tissues, and if an operation be found necessary, this improved condition of the ocular structures will ensure a larger degree of success.

94. **Chlorosis.**—Southworth's paper gives a thorough discussion of the symptoms and treatment of chlorosis, though he does not detail, to any extent, some important nervous complications of the condition. The treatment consists in the administration of a suitable preparation of iron, together with the proper regulation of the patient's mode of life and measures for the relief of the disturbed functions.

95. **Dupuytren's Contraction.**—Two cases of Dupuytren's contraction with microscopic examination of the tissues, which was afforded by the death of the patients, are here reported by Nichols. Unlike a case recently reported by him elsewhere, these contractions were of long standing, and a comparison with the results found in the previous case show that in the early or developing period cellular and vascular elements occur in great abundance; while at a later stage, when the lesion is fully developed and stationary the cells and vessels diminish, leaving the abnormal tissue a dense fibrous mass; and that the hypertrophied fibrous bands are developed by the activities of the abundant connective-tissue cells, which are proliferated in especial profusion along the course of the small blood-vessels. The lesion is essentially a hypertrophy, the new tissue being similar to the pre-existing normal fascia. Any etiologic explanation of Dupuytren's contraction would have to take into account the active proliferation and the fibroplastic action of the connective-tissue cells and their relation to the vascular elements. The presence of Pacinian bodies in all the three cases microscopically examined by him is perhaps worthy of mention.

96. **Acetanilid in Ear Suppuration.**—Ten cases of suppuration of the middle ear treated with acetanilid are reported by Libby. He advises that only the most finely-powdered acetanilid be used, and but little applied to the middle ear and canal in acute suppuration and in most cases of the chronic form.

In some obstinate cases of the latter, prompt and permanent checking of the discharge is brought about by packing the middle ear with this drug, but this is unsafe unless the patient is seen every day and carefully watched against retained discharges from caking of the powder. In making these applications, he first cleanses out, as far as possible, the parts, uses peroxid of hydrogen, and after thoroughly wiping it out he insufflates the acetanilid powder.

97. **Uterine Diagnosis.**—The two points made in Swan's paper are the advantage of a more common use of the fingers in explorations of morbid conditions of the uterus, and the value of certain methods of microscopic examination of its mucosa. As regards the first, he remarks that in this country this method has been neglected and only advocated by Banga of Chicago. He describes, however, Leopold's method as practiced in Dresden, with the use of aseptic laminaria tents used under complete aseptic precautions, for dilatation so as to permit the introduction of the finger. Among the indications for this method he reckons: 1. Hemorrhage associated with the retained products of conception. 2. Persistent bleeding connected with some enlargement of the uterus not related to pregnancy, for example, a suspected uterine polyp. 3. Submucous and intramural myomata may be detected in the same way, and lastly those cases where we have an offensive or purulent discharge, suggesting malignant disease, sloughing myoma, etc. The dangers of the method disappear with conscientious following of Leopold's method, and Leopold himself has used it in many hundreds of cases, septic and otherwise, without bad results. He explains the freedom from infection by the fact that the tent seldom produces complete occlusion and is always expelled within ten to twelve hours, by muscular contraction, so that a partial obstruction for this brief period could hardly materially increase or render general existing local infection. Swan here reports two cases illustrating the advantage of this method of diagnosis. In the second part of his article he describes Amann's method of obtaining large pieces of uterine mucosa for microscopic examination. A medium-sized, slightly dulled curette is introduced to the fundus and withdrawn in one stroke, the mucosa brought away being deposited on a piece of gauze. After the blood and mucus have been allowed to separate from the specimen without handling, it is dropped into a bottle containing a 10 per cent. formalin solution. This operation is repeated until the curetting is complete. The bottle should be immediately labeled with the name of the patient and the date. Swan describes Pick's method of manipulation in which the staining and examination can be completed and the diagnosis reached, as a rule, in twelve to 15 minutes, as follows: 1. Remove tissues from salt solution, place on ether microtome, freeze slowly, and cut. 2. Place in 4 per cent. formalin solution a quarter of a minute. 3. Remove to formalin-carmin solution one minute. 4. Transfer to water a quarter of a minute. 5. To 80 per cent. alcohol a quarter of a minute and remove air bubbles. 6. To 100 per cent. alcohol a quarter of a minute. 7. To mixture of two parts xylol, one part pure carbolic acid. 8. Place on slide and mount in Canada balsam. The quickness of this method is facilitated by the use of "Jung's Hobel" ether spray freezing microtome, and by the mixing of the formalin and carmin stain, thus hardening and staining the specimen at the same time. He recommends Robb's system of studying the sections and recording the results, and reports two cases.

98. **Septic Thrombophlebitis.**—Ward calls attention to the possible fatal complication of peritonsillar abscess or quinsy, the possibility of infection from such disease, and reviews the literature. He adds two cases personally observed, with postmortem. While septic thrombosis, or thrombophlebitis is not a common complication of quinsy, he has attempted to show, not only the possibility, but its serious danger and the need of a more guarded prognosis in the treatment of this disease than is sometimes given.

100. **Nasal Stenosis.**—After having used nearly every operation worthy of mention, that was known to him, and having been disappointed by failure in all, Booth adopted the method of Dr. Morris Asch (see JOURNAL, June 17, p. 1381), which he has found to meet the indications. He details his method which he believes to be the same as that of Asch.

101. **Chronic Spinal Neuritis.**—Brush calls attention to the importance of chronic neuritis and describes cases of different types in which the neuritis was confined to one or more members, the arm or the leg, or was multiple. In the latter form he finds the prognosis is bad, two of his cases terminating in locomotor ataxia.

102. **Gangrene of Lung.**—The subject of pulmonary gangrene is discussed by Levings, who points out the dangers of the condition and also those of operation even when it is imperatively demanded. The points he specially makes are as follows: 1. All cases of pulmonary gangrene which are progressive and not absolutely diffuse should be operated on. 2. The gangrenous area should be localized by physical examination, aided by the use of the aspirating needle, and, if necessary, by multiple resection of ribs. 3. In the absence of pleuritic adhesions, the general pleural cavity should be shut off either by a gauze packing or by a row of sutures. 4. After thorough opening and free drainage of the gangrenous cavity it should be daily cleansed by gentle irrigation. 5. The cavity should be tightly packed with iodoform gauze.

103. **The Stomach and the Uterus.**—Murdock reports a case of aggravation of gastric difficulties during menstruation, and of dysmenorrhea due to gastric ulcer. The cause of the trouble in this case, he thinks, was the presence of solid food in the stomach, for both the attendant anemia and the circumscribed spot of tenderness were present in each case after the dysmenorrhea had disappeared.

104. **Asepsis.**—After going over the details of the subject, Beck sums up his paper as follows: 1. The superficial surface of the skin of the patient and of the surgeon's hands is sterilized after the principles set forth above (green soap, scrubbing, alcohol, etc.). The atmosphere being innocuous, all inorganic material being made aseptic by boiling, the skin surface being asepticized, and the skin glands which contain bacteria being hors de combat, it becomes evident that the only possible source of infection remaining would be the rough manipulations on the part of the surgeon or his assistants. 2. Aseptic gloves are worn by the operating surgeon, at least during the skin incision. The assistant who passes the instrument and the one who attends to the wound itself wears gloves throughout the whole operation. 3. After incision, the wound margins of the skin are covered with sterile napkins, which are fastened to the wound surface underneath the skin margins, with miniature forceps, so that the skin wound is not touched at all during the subsequent manipulations. 4. The knife used for the skin incision must not be used for further incisions. The operation should be performed as rapidly as possible. 5. For uniting the wound margins of the skin the subcutaneous method should be preferred. 6. Forcible manipulations, especially blunt operating, should be avoided. 7. The surgeon and assistants wear sterilized suits or gowns. Their heads must be covered with sterilized caps, because in bending over the field of operation it often happens that the heads of the surgeon and his assistants come in contact, whereby infectious material might be introduced into the wound. 8. Long beards are entirely unsurgical. 9. If a surgeon should suffer from rhinitis, tonsillitis, etc., he should use the most minute local precautions, or would better omit operating until recovery. It is self-understood that a surgeon should regard it as a crime to operate so long as he suffers from even a slight furuncle on his hand.

105. **Surgical Treatment of Gall-Stones.**—Ferguson discusses the various methods of operation for gall-stones, and considers that the operation of selection depends somewhat on the pathologic condition on opening the abdomen. If the gallbladder is so diseased or atrophied that its attachment to the colon or duodenum is impracticable, cholecystotomy or cholecystectomy may be performed. In all other cases cholecystenterostomy is the ideal operation, because: 1, drainage is made into the intestinal canal instead of externally; 2, convalescence is made more rapid, and 3, the patient is perfectly cured. He thinks operation is indicated in acute attacks attended with jaundice lasting longer than ten days or two weeks without improvement, and if unattended with jaundice, lasting a week or more without improvement, and in all chronic recurrent cases. He reports four cases.

106. **Dislocation of Lower Jaw.**—McGraw reports a case of old dislocation of the lower jaw, in which a mistaken diagnosis had been made, and which he was able to reduce by mak

ing an incision under the zygoma after repeated attempts to replace it without such operation. Recovery was perfect. He has only been able to find three or four cases of similar procedure in the literature.

118. **Gastric Crises of Tabes.**—Basch's paper is a lengthy one, discussing the whole subject of gastric crises, their symptoms, complication, varieties, etc., with illustrative cases. He divides the condition into the following subdivisions: 1. Gastric crises with sudden onset; 2, gastric crises with gradual onset; 3, gastric crises with marked prominence of isolated manifestations, e.g., *anorexia tabetique* (Fournier), *variete flatulante* (Fournier), *vomissements noirs* (Charcot), etc. All these forms may be accompanied either by pain or vomiting or by both. If gastric crises be the only manifestation, they will not serve by themselves for the certain diagnosis of locomotor ataxia, but since they have certain well-marked characteristics, their recognition may serve to indicate its possible existence. These characteristics are: 1. Absence of symptoms of organic disease of the gastro-intestinal tract. 2. Sudden onset. 3. No initial chill. 4. Great intensity of symptoms, sometimes rapidly, sometimes gradually increasing in severity. 5. Rapid pulse with no fever. 6. Absence of any local condition in the region of the stomach, and absence also of other factors to explain the severity of the symptoms. 7. Absence of specific diagnostic features in the vomitus. 8. External circumstances have no influence on the natural course of the attack. 9. Spontaneous cessation. 10. Rapid convalesence. The differential diagnosis is discussed at length, from ulcer of the stomach or duodenum, perigastritis, cancer, gastro-succorrhea, cholelithiasis, and cerebral and uremic vomiting. As indicated in the characteristics stated above, the prognosis as regards life or recovery from attack is generally good. As far as treatment is concerned, he thinks he has had the best results, as regards drugs, with oxalate of cerium, antipyrin, and nitrate of strychnin, aside from morphin, which of course, will afford relief in most cases. The rules of diet are laid down. The question of providing sufficient nourishment during the attack is an important one and may give some difficulty, but if no organic disease of the digestive organs exists, rapid progress may be made to full diet. The general principle is to keep the nutritive standard of these patients as high as possible, since we have no means of absolutely suppressing the gastric crises or diminishing their frequency.

119. **Ventral Fixation of Round Ligaments.**—Lesser describes an operation for ventral fixation of the round ligaments when Alexander's operation can not be performed on account of their laxity or weakness. The procedure for the operation is as follows: "The patient is prepared for celiotomy. If curettage is necessary, it should be done first. The repositor is placed in the uterus, with its handle standing horizontally. After the operative field is made aseptic and proper dressing placed around it, an incision is made transversely from about 2 cm. inward of the point anatomically denoting the internal abdominal ring on one side, to the same point on the other side and about 25 cm. above the pubis. The incision is made through the skin and fascia, down to the aponeurosis of the external oblique; it should not be made funnel-shaped and not higher up than stated. The integument is then drawn upward and downward, respectively, in order to lay the parts free for the second incision. From this point I proceed differently in various cases. The simplest method of all is the median incision, particularly so when there are adhesions or other internal encumbrances. In the latter case the incision has to be made of sufficient length to permit the necessary manipulation for correction. If there are no complications beyond the direct object of the operation, a short longitudinal opening is made through the linea alba and peritoneum. The uterus is then placed in position by means of the repositor, and the position of the ligaments and the surroundings ascertained. A silkworm or kangaroo suture is then inserted with the hernia needle about 0.5 cm. inward from the outer angle of the incised skin, and passed horizontally, not through the skin, but through muscle, fascia, and peritoneum. While the outer end of the suture is held with forceps, the inner serves to indicate the place to which the ligaments should be attached. If the uterus is held in normal position with the repositor, the ligament can be picked up with pincettes almost opposite the suture, but before the needle is carried under it the exact place for the attachment should be measured. The needle is then carried around the round ligament at the required place, necessarily taking along the broad ligament covering it. The thread should be long enough to allow the suturing while the ligament is relaxed again. The hernia needle is removed, and the eye-point needle is passed parallel with, but 1 cm. below, the place of entrance of the first or descending suture. The eye needle is then threaded with the ascending strand of the suture, which is drawn up and out of the abdomen, and held there with forceps—after a little practice all can be done with the hernia needle alone. A second suture is made through the abdomen and ligament in the same manner as the first and about 0.75 to 0.85 cm. inward from it. This may be done without measurement, but the difference between the sutures outside must be as nearly as possible the same as that between the sutures in the ligaments. A third suture is passed at the same distance from the second, giving in all an attachment of about 1.5 to 2 cm. The ends of sutures should be held outside with forceps, and not be tied immediately, so that the ligament may remain relaxed, to serve as a comparative landmark for the other side. While working on one side, I usually keep the other incised parts covered with a warm pad, and after changing the pad the opposite side is attended to in the same manner as the first. When all the sutures are in, and before the ligaments are drawn up to be tied, I abrade the portion of the ligament and peritoneum—by scraping with the scalpel or curette—along between the sutures, so that a union may take place and become more firm. After this the sutures on either side, beginning with the most outward one, are drawn up closely and tied firmly, but not too rigidly. The ends are cut short and buried under the skin and fascia, which are often closed, preferably by subcutaneous suture."

121.—See abstract in Journal, September 23, p. 794.

124.—Ibid.

126. **School Seats.**—Bradford describes and illustrates the various defects of seats for school children, and shows their dangers and inconvenience. In conclusion he describes a chair constructed on new lines, which he illustrates and thinks will meets the indications better than anything now in use.

133.—See editorial, p. 1049, also p. 1036.

134. **Acromegaly.**—Leszynsky describes a case of acromegaly with special reference to the symptoms, giving illustrations of the patient and of the visual fields. He explains the mechanism of the eye symptoms by the mechanical pressure.

137.—See ¶ 147.

141. **Colloid Cancer of Abdomen.**—Ferguson discusses the etiology and pathology of cancer, and questions the modern parasitic theory of the disease. He says: "After a somewhat careful review of the evidence relative to the parasitic origin of cancer, and the statistics of the numerical and relative increase of the disease, the conclusions which appeal to my judgment are as follows:

"1. The dissemination of cancer to or through remote areas of an individual patient's body is a fact so frequently observed that we must accept the idea of some kind of infection.

"2. The rarity of direct infection from person to person, though the opportunity for such infection must have occurred in a great multitude of instances, as between husband and wife, surgeon and patient, and in other ways, shows that the infective agent is one not readily transplanted, or that it requires a specially-prepared soil.

"3. The vital properties of the anatomic elements of the growths furnish fully as adequate an explanation of this limited infective power, as would any protozoan bacillus, or yeast fungus; on the other hand, we are not in a position to deny the existence of extraneous organisms which may be the source of an irritation to the cells which results in the production of cancerous growths."

As regards the recent statements as to the increase of cancer he also doubts whether they have any more basis than the more accurate diagnosis and recognition of the disease would afford.

145. **Irrigation in Acute Septic Peritonitis.**—Laplace reports a case of severe acute septic peritonitis treated by irrigation with normal salt solution, from which he deduces the following conclusions: 1. That the peritoneal cavity stands, with perfect safety, a continuous irrigation with normal salt

solution at a temperature of 100 degrees, during seventy-four hours. 2. That in this case the infection of the peritoneum, which had been so violent and rapid, effectually ceased under this treatment. The symptoms, pain, vomiting and distension ceased and there was no constipation. 3. The patient stood the irrigation with comfort; not complaining of cold, for the warm water was so copious in its flow as not to have time to cool. 4. The copious irrigation, it is believed, dissolved and carried off the toxins as they formed; it reached the most dependent portions of the peritoneal cavity, and removed infectious material; therefore, effectual drainage was established. It acted as a tonic to the heart. No doubt some of this solution was absorbed into the system. During three days the infection was held in abeyance by the antiseptic action of the salt, and phagocytosis had free scope to destroy the infectious bacteria permanently. 5. This method has not been used before. It has given great benefit in an apparently hopeless case. The method is in accord with already well-established surgical principles, only novel in its application to the peritoneum. It may prove a valuable aid in the treatment of heretofore fatal cases of peritonitis, and worthy of further trial.

146. **Typhoid and Colon Bacilli.**—The following method of distinguishing the colonies of the typhoid from the colon bacilli has been introduced by Piorkoski of Berlin, and is here detailed by Case. The culture-medium is prepared as follows: Take 100 parts of urine that has undergone the ammoniacal fermentation and add .5 parts of peptone and 3.3 parts of gelatin, the whole heated over a water-bath for one hour, filtered and put into test-tubes with the usual precautions, sterilized in a steam bath of a temperature of 100 C. for fifteen minutes. The following day they are sterilized for only ten minutes, in order not to impoverish the solidifying properties of the gelatin. Then three tubes are inoculated as follows: The first tube is inoculated by two loops of the stool that has been rubbed up in a mortar, and a second tube is inoculated from this first one by four loops, and a third by six or eight loops from the second dilution. The contents of each tube are then poured into sterilized Petri dishes, using a dish for the contents of each tube, stood on ice for ten minutes or in a cool place for an hour, to allow of moderate coagulation of the solutions. The dishes are next put into an oven and kept at a temperature of 22 C. for twenty-four hours, when the typhoid colonies are perceptible as transparent filamentous bodies alongside of the coli colonies, which are rounded with well-defined edges. The colonies may be found in all three dilutions, but more abundantly in the first and second, whereas a few hours longer may be required to find them in the third dilution. Dr. Piorkoski claims that by this method the typhoid colonies have been determined as early as the third day of the patient's indisposition in every case.

147.—This specimen is reported in two papers. See ¶ 137.

149.—See abstract in Journal, October 14, p. 976.

151.—Ibid, October 21, p. 1041.

153. **Old Age.**—Nuckols notes the modifications of diseases occurring in the aged, more especially the bronchitis and pneumonia. He concludes with remarks on the care of health in old age. The diet should be simple, but nutritious. The patients should aim to eat simply to repair, and as the functions are much reduced, very little is required to maintain life. They should eat as do children—often and in small quantities. The evening meal should be light and unstimulating. We should caution them especially about overloading the stomach and allowing themselves to become constipated, as this is one of the most frequent exciting causes of apoplexy. Alcoholic liquors, if drunk at all, should be taken with caution. Fresh air is very essential to the aged; in fact, more so than at any period of life, because, on account of the condition of the lungs, hemostasis is imperfect. It is entirely wrong to keep an old man shut up in a warm room and allow him to breathe and rebreathe the same air. It is a common thing to find an old man, heavily clothed, drawn up by a hot fire, and dreading a breath of fresh air for fear of taking cold. The clothing should be warm, but light, and he should be made to take outdoor exercise every day. When called on to treat the aged, we should make a thorough examination, especially of the lungs, heart and kidneys, for reactions in the aged are not marked, and some serious condition may exist without any outward manifestations. In all diseases we should test the urine from day to day, and should ever be ready to anticipate and combat the depression, so often seen in the course of diseases in the aged, by the administration of tonics and stimulants.

156. **Inflammation of Middle Ear.**—The treatment of acute otitis media is described by Reik. The first symptom requiring relief is pain, and this has best been obtained by local blood letting. If the tympanic membrane is found to be red and bulging, it should be immediately incised at this point, making a free incision which will permit of good drainage from the tympanic cavity. The operation should only be done after thorough sterilization of the canal and of the knife. Allow free bleeding and even encourage it by warm applications. For this purpose a hand syringe will do, though a fountain syringe or douche is better. The water should have been boiled and used as hot as can be borne. Another very useful means of bleeding is the old way of leeching behind the auricle and over the mastoid, and it is also aided by douching. He questions the value of local remedies poured into the ear. Repeated syringing with large quantities of hot water would probably do as well. When, however, it is insisted on and the patient will not undergo paracentesis and leeches are not at hand, the best application is probably that suggested by Theobold: Cocain murias gr. ii, atrop. sulph. gr. i, aq. dist. ʒi; or cocain (alkaloid) gr. ii, atropia (alk.) gr. i and oleum amygdalæ dulc. ʒi. Warm and pour eight or ten drops in the ear. After suppuration has occurred, pain usually subsides and the treatment required is cleanliness. Syringe the ear carefully with boiled water or boric acid, or weak bichlorid solution, and dry carefully with absorbent cotton. If it continues the case should be submitted to the examination of a specialist and a suppurating ear should not be allowed to run on indefinitely without treatment.

157. **Sarcoma of Choroid.**—Mills finds this condition to occur with equal frequency in both sexes, is not hereditary or due to injury, and frequently is very insidious in its stages. The patient often does not become aware of the defect until the tumor has become quite large and sight has become affected. The eye should be removed as soon as the diagnosis is made, the optic nerve being divided as far back as possible.

158. **Rubber Finger-Cot in Obstetrics.**—Bond recommends the use of a thin rubber finger-cot in obstetric examinations and claims that it suffices in all ordinary cases of labor. He believes that there is a vast amount of subacute illness after simple labors due to infection, and that this simple precaution is therefore the more necessary.

FOREIGN.

British Medical Journal, September 30.

Remarks on Finsen's Phototherapy. Valdemar Bie.—In this article Dr. Bie, Finsen's chief assistant, explains the theory and methods of the most recent treatment of certain bacterial diseases by the chemical light rays as carried on in Copenhagen. The experimental data on which the method is based are: 1. The bactericidal property of the chemical rays. 2. The power of these rays to produce an inflammation of the skin—erythema solare. 3. The power of the chemical rays to penetrate the skin. The first of these has been much studied, but as even the strongest sunlight is too slight for therapeutic purposes, Finsen concentrates the light by means of apparatus to be described. As regards the second point, the older view that solar erythema was due to heat rays was experimentally shown to be an error by Widmark, and Finsen's later experiments have confirmed his finding that it is due to the blue and violet rays. Godneff and Finsen have proven the power of these rays to penetrate the skin, by placing sealed glass tubes containing sensitive silver salts under the skin of dogs and cats and exposing them to sunlight, when the silver was found to be blackened. Control experiments with animals kept in the dark confirmed the findings. Finsen has also proven that they penetrate bloodless tissues most readily. The apparatus employed consists in lenses for concentrating sunlight, so that it has sufficient effect. For cooling the sunlight the lenses are made of a plain glass and a curved one, the space between being filled with a bright blue, weak, ammoniac solution of copper sulphate. This cuts off a large portion of the heat rays, but interferes very little with the chemical ones. A somewhat ore elaborate arrangement is described for use with the elec-ric light, distilled water being employed instead of the copper olution. By these means some 350 cases of lupus vulgaris ave been treated with very satisfactory results, and illustra-ons are given showing cases. In five cases there was very ow improvement, but they were the sole exceptions. For the resent, at least, only the skin, the hard palate, the front part of e septum nasi, the tongue, and the mucous membrane of the eck can be cured by this method, but in absolutely none has e treatment been without some effect. A disproportionately rge number of cases were severe, as the treatment was ad-ised by physicians for just such cases. During the treatment e skin swells, reddens and a bulla may appear, but in no in-ance has necrosis been observed. The excellent cosmetic esults of the treatment are due to the fact that there is no estruction of the tissues, healthy or diseased. Both the dis-ased tissue and the skin surrounding may be treated without arm, and the treatment is painless. Relapses have been very nfrequent and of slight extent. Their occurrence at all is ttributed to the fact that the treatment has been discontinued r economic reasons at the earliest possible moment, as a rule. f it could be carried on, further relapses might not occur. upus erythematosus thus treated is not so sure in its results s lupus vulgaris, though many cases recovered permanently. few cases have improved very slowly, with a constant tend-ncy to recurrence. As only twenty-eight cases altogether have een thus treated, the material is not sufficient to draw con-usions as to the cause of these individual differences. Seven ases of alopecia areata had been cured by this method up to anuary, 1899, and from the later experiments it would appear nat even the old decalvans forms were curable, though only fter long treatment. These results decidedly support the neory of the infectious origin of alopecia areata.

Interaction Between Ovaries and Mammary Glands. tanley Boyd.—The author reports three cases, one each of ure, partial success and failure, in the treatment of cancer f the breast by removal of the ovaries, and discusses the ques-on of the interaction between these organs. His working ypothesis in regard to these cases is that the internal secre-on of the ovary probably exercises an important influence on ll the cells of the body; that it may vary in quality pathologi-ally, but not physiologically, and that when varied in ome unknown way the ovarian secretion favors the rowth—possibly even the action of the cause—of ancer, influencing even the invading epithelium or e resisting tissues. The removal of the ovaries, therefore, this case would leave the tissues unhampered, and might urn the scale in their favor for a time, while, on the other and, ovaries secreting normally would have no effect.

Interaction Between Ovaries and Mammary Glands. mand Routh.—The questions whether ovulation can occur in e absence of the mammary glands and lactation take place in e absence of the ovaries, are both answered in the affirmative y Routh. The further question as to whether there is any vidence showing that the mammary glands are affected by pel-ic states, is, in his opinion, supported by facts which he relates, be answered in the negative.

Lancet, September 30.

Pharmacology of Some South African Plants. John aberly.—The South African non-official drugs noticed by aberly are the three varieties of *Monsonia* which seem to have pecial advantages in forms of acute and chronic ulceration of e stomach and intestines. The *Pelargonium antidysenteri-um* is also mentioned, and in one case a tincture seemed to ave remarkable results. He also mentions an unknown plant, f which he was unable to produce specimens, but the beans f which he found most effective in the South African fevers. till other drugs are the *Bulbine alooides*, used for rheuma-ism; the *Blepharis capensis*, a Kaffir remedy for anthrax, hich he thinks is worthy of investigation; the *Callilepis urcola*, useful in whooping-cough; and a very powerfully oisonous plant, the *Hycnanche globosa*, which he thinks may ossibly be worthy of experiment and analysis.

Early Diagnosis of Myxedema. Charles W. Chapman. —This author reports three cases illustrating the difficulty of arly diagnosis of myxedema, and mentions a special sign hich he has found useful in early diagnosis. It is somewhat similar to the "Bright's eye" in chronic renal disease, and consists in a sort of sloppy appearance of the conjunctiva, due to the presence of mucin. When he finds the conjunctiva thus affected, and no albumin nor evidence of renal trouble, he looks out for myxedema, and has been more than once put on the right track by this sign.

Somatose and Meat Extracts. Thomas Stevenson and Arthur P. Luff.—The authors publish an analysis of somatose and a series of experiments made with its use. In each case a quantitative examination of the urine was made. Their conclusions are as follows: 1. Somatose is a true meat nutrient possessing restorative and stimulating powers. 2. It is well borne by delicate patients. 3. It improves digestion and causes no gastro-intestinal disturbances. 4. It has a favorable effect on general metabolism. 5. It has no irritant effect on the kidneys and never gives rise to albuminuria, albumosuria, or peptonuria. In those cases in which albuminuria existed prior to the administration of somatose, the albumin gradually disappeared from the urine during its administration.

Leprosy in Madeira. J. Ashburton Thompson.—The Island of Madeira furnishes an isolated area in which leprosy has been endemic for at least the last 400 years. Thompson has looked up the records and tried to find out what data were afforded as to the origin and spread of the disease. In older times lepers were somewhat isolated, but had to wear a distinctive dress, as did also their relatives, and pauper lepers were confined in the lazaret up to thirty years ago. Since that time they have been free to go about as they please, and there is no dread of them among the other population. At the present date there are about seventy on the island, not equally distributed but more numerous in some localities than others, a very small proportion coming from Funchal, the chief town. The greater the altitude, the more common the leprosy, but this is explained by the poorer conditions of life among the mountaineers. Food seems to have little effect. Dr. Goldschmidt, from whom these facts were obtained, has little faith in heredity of the disease, and thinks that the etiology is unknown. Thompson concludes his paper as follows: "If the history of leprosy in Madeira, regarded as a study in epidemiology remains for the present an unexplored field, it is otherwise with the conditions under which the disease has persisted during the last twenty-six years. The details of this period seem to be sufficiently full and explicit. The author gives them from his own knowledge and observation. From perusing them, however, the reader who began without any prepossession rises with wonder at the conclusion which is formally drawn, for he can not help seeing that if lepers were indeed maintained by communication with the sick, if it were maintained by indirect communication, if natural resistance to leprosy in particular could be withdrawn by a lifetime led in *la misere*, or if diminished resistance were indeed the determining cause of the maintenance of leprosy on areas of its endemicity—then at all events Madeira should be ravaged by this disease. But what is the fact? Only seventy cases can be counted there at this day."

Bulletin de la Societe de Pharmacie de Bordeaux, August.

Oxidizing Ferment of Fluids of the Organism. R. Dupouy.—The saliva contains an "indirect oxidizing ferment," that is, a substance which decomposes oxygenated water and has all the properties of a soluble ferment, independent of the presence of micro-organisms. It is also found in small quantities in the sweat, nasal secretions, tears and in the blood, in the latter proportional to the number of leucocytes. Dupouy concludes from his research that this oxidizing action is due to the presence of the white corpuscles in the fluids, and asserts that the leucocytes, besides their phagocytic properties, possess the property of secreting an indirect oxidizing ferment.

Bulletin de l'Academie de Medicine (Paris), September 19.

Paralyzing Vertigo. Gerlier.—For the first time in the history of this venerable institution, the Académie Médecine adjourned over the hot weather. Among the communications presented when it reassembled was Gerlier's detailed description of the peculiar affection which he has observed among farmers in summer. In the midst of his work the man suddenly stops and remains immovable; his tools slip from his hands; ptosis of the upper lids makes it impossible for him to open his eyes. His head is bent by paresis of the extensor muscles of the back of the neck. If he tries to walk, his legs give way under him. In other cases the attack comes on suddenly, while milking; he can not use his fingers. When he tries to eat he can not open his mouth. There are no other symptoms except possibly a rachialgic pain; between the attacks the subject feels normal. The attacks recur once or several times a day or at intervals of several days, and one to five months may pass before they entirely disappear. House epidemics have been observed. The same affection has been noted in Japan, and Mura's report on an epidemic of it there in 1896 coincides with Gerlier's earlier published communication. He attributes it to some unknown microbe or cryptogamous parasite which finds specially favorable conditions for growth in barns, stables, etc.

Guaiacol in Differential Diagnosis of Tuberculosis and Malarial Infection. Moncorvo.—It was announced some time ago that painting the skin with guaiacol was an effective measure to reduce fever. (See Journal, xxvi, p. 996, etc.) Moncorvo has established that while this antithermic action is manifest and intense in the reduction of the fever of tuberculous subjects, it has no influence whatever on malarial fever. Hence it is valuable as a means of differentiating these two febrile states, and also as a diagnostic measure when the two are associated. He has always found, in his experience at Rio Janeiro, that the combined use of quinin and local applications of guaiacol arrested both when associated. His observations only refer to children and synthetic guaiacol—alpha—with which the abdomen was painted, using one or two grams.

Journal d'Hygiene (Paris), September 28.

Human Fertilizers. P. Carles.—Duclaux has estimated that the excretions of twenty persons are sufficient to fertilize two acres of ground and more, and states that the organic or fertilizing nitrogen is eight times more abundant in the urine than in the feces. Carles has long been urging that human excrements should be used for fertilizers to benefit the soil instead of wasting them in death-dealing pollution of the water-supply and slow ruination of the soil. Public hygiene, social economics and agriculture are all directly involved in this great waste in our cities, which also entails an enormous waste of running water to sweep urinals, etc. clean. He advocates the use of specially constructed, easily emptied and disinfected reservoirs to collect the urine in public urinals, hotels, barracks, depots, etc., stating that manufacturers prefer this material and farmers would regard it as a gold mine. He calculates that a thousand persons excrete during the twenty-four hours, in the urine alone, 33 kilograms of organic nitrogen and 155 kilograms of phosphates: that is, nearly 400 metric tons of nitrogen a year. At 30 cents a kilogram this amounts to $10 a day per thousand inhabitants, and for a town with 250,000 inhabitants, to $2,500 per day. Forty to fifty thousand men using the public or semipublic urinals a day would deposit in the reservoirs $500 worth of organic nitrogen.

Presse Medicale (Paris), September 23 and 27.

Basedow's Disease and Coexistent Myxedema. M. Faure.—An observation is here described at length, of a woman whose cardiac nervous system had become disorganized and the autopsy revealed a possible cause for this disorder in the nervous system, in the compression of the cervical sympathetic by the hypertrophied thyroid gland. This hypertrophy was not clinically appreciable during life, but the gland was in reality three times normal size, demonstrating that there may be compression of the sympathetic by an unrecognized goiter. In the case reported, exophthalmic goiter developed in the course of six years, then came indications of cardiac insufficiency and two years later the Basedow's disease gradually regressed; with it the indications of cardiac insufficiency, any myxedema developed during the following three years. The myxedema was treated with thyroid extract and the cardiac insufficiency with digitalis, keeping them under control until the eleventh year, when they increased to a fatal termination. The chief features of the case were the progressive tachycardia and arhythmia, coinciding with hypertrophy of a healthy heart without appreciable lesions of the myocardium or valves, terminating in exhaustion of the heart and fatal circulatory insufficiency. The autopsy confirmed the difference between the cutaneous and subcutaneous myxedematous thickening of the skin of the face and the cardiac edema of the lower parts of the body. Faure concludes from this observation and the experience of others that Basedow's disease is not a disease but a clinical syndrome which may be produced by several, possibly multiple causes.

Can White Swelling Be Cured With Retention of Mobility of Articulation? Galot.—The writer replies in the affirmative to his question, and cites instances in which he has succeeded with massage and mobilization during several months, in restoring practically normal motility, after curing the tumor with intra-articular injections of camphorated naphthol, ten grams at a time, and evacuating the liquid, treating the white swelling like a cold abscess. He first tries the massage and passive exercise alone, and if the affection subsides its non-tuberculous character is demonstrated, but if it becomes aggravated by this treatment he then punctures and proceeds as above. Tuberculin might prove valuable in diagnosing dubious cases.

A Sign of Abdominal Aortitis. L. Brodier.—Potain insists on the fact that an inflamed artery loses some of its elasticity and has a tendency to stretch out longer under the influence of the waves of blood sweeping onward from the heart. As it stretches it bends in and out, and the area of dulness is correspondingly increased. He therefore states that an increased area of sternal dulness over the aorta is an indication of inflammation of the first portion of the vessel, and is not due exclusively to dilatation of the cross. If it were we would have to accept that when the right edge of the aorta is 2 cm. beyond the sternum, its left edge must be an equal distance from it on the other side, indicating that the vessel was 4 cm. wider than normal, while such an increase in the diameter of the aorta is only encountered in certain forms of aneurysmal dilatation. The increased area of dulness is in fact due to the lengthening of the inflamed aorta, which, being held firm in front by the heart and behind by the intercostal arteries, can only stretch out longer by exaggerating the arc, which it describes at this point, extending up and out, and carrying with it the branches emerging from its convexity, the brachiocephalic arterial trunk in particular. The right primary carotid is also lifted, but this escapes our present methods of exploration. The lifting of the right subclavicular is, however, evident, as Faure noted in 1874, and this elevation of the right subclavicular above the upper margin of the clavicle is now accepted as a valuable sign of what we have been erroneously calling dilatation of the cross of the aorta. The writers of this communication establish that these same laws apply to the abdominal aorta, and describe three observations which demonstrate that the deviation of this vessel, if not connected with a deformity of the spine or due to a congenital malformation of the artery, is a certain sign of abdominal aortitis. It is not always evident, as it requires a certain amount of adherences between the walls of the aorta and the adjacent tissues to keep the artery from slipping downward along the spine as it grows longer, but when found the sign can be relied on.

Progres Medicale (Paris), September 9 and 23.

The Plague in Our Epoch. J. Noir.—The permanent foci of plague from whence spread the germs of extensive epidemics are the Tripolitan and Ouganda districts in Africa; Assyria in Arabia; Irak-arabi; Kurdistan; the valley of the Indus at Garhwal; Yunnan in China and the region around Lake Baikal. Since 1880 the disease seemed to have been limited to these foci, until 1895, when it appeared at Hongkong, soon invading Canton and Formosa. The following year Bombay was decimated, and the disease has since flourished along the Persian Gulf. It thrives alike at low and high altitudes, but extremely hot weather, 45 to 50 C., extinguishes it. Like all infectious diseases, it is fed by alcoholism, poverty and filth. Infection is most frequent by means of clothing and direct contagion from man to man or from the smaller animals. The characteristic bubo is an ovoid tumor the size of a nut, in moderate cases, with two or three smaller ones around it. The deep ganglia may be affected and lead to all the accidents of infectious adenopathy. In about a third of the cases the buboes are accompanied by gangrenous carbuncles which may reach to the muscles and even the bones. There are also a number of other cutaneous accidents. Charcot admitted three varieties: fulminating, serious and benign, but Netter, in his exhaustive study of the plague in recent numbers

Presse Medicale, describes five varieties: the classic, the
pticemic, which includes most of the fulminating cases usu-
ly accompanied by hemorrhagic accidents, the pneumonic
rm, scarcely differing from ordinary pneumonia except by the
nk, spumous and aqueous sputa with numbers of bacilli; the
testinal, which is not thoroughly established as yet, and the
nbulant, which is Charcot's "benign" form. The carbuncles
d petechiæ have been unusually frequent and the buboes
re in Persia and Kurdistan, while the pneumonic form has
en more frequently noted at Oporto and Alexandria. The
ortality of epidemics ranges from 50 to 60 and even 95 per
nt. Serum treatment is the only real progress yet accom-
ished by science in the struggle against the plague, and the
sults of this are not yet entirely satisfactory. It requires
rther technical improvement. The German, English, Russian
d Austrian missions that have in turn tried the Yersin anti-
xic serum, are still skeptic in respect to its efficacy in curing
e disease. As a preventive measure it has proved valuable,
t the immunization attained with it only lasts forty days,
d Haffkine has improved on this by actually vaccinating
bjects with bouillon cultures killed by heating, which en-
res immunity for a year. All plague victims are cremated at
porto. Noir quotes, in conclusion, that a mocking echo seems
be transforming our boasted motto: *sanitas sanitatum,*
nnia sanitas, into *vanitas vanitatum.*

New Hooking Forceps. L. LONGUET.—Each blade of the
ng slender forceps is slightly narrower in the center than at
ther end, and forms a slight elastic curve. The end termin-
es in four teeth at right angles to the blade, which lock the
o blades close together. The hooking action is thus con-
ntrated at the point of the forceps where it belongs. It is
so an excellent clamp for small stumps, upper layer of broad
gaments, etc., holding them with a firm, even, elastic pressure.
iere are no grooves nor crocodile teeth, as Longuet considers
em unnecessary and only inviting rust. Quénu asserts that
th two of these forceps applied to the cervical stump or mar-
n of the vagina in subtotal or total abdominal hysterectomy,
e stump is held and managed better than with twenty
ocher forceps. They have none of the disadvantages of the
tter, with all their good points.

Revue Heb. de Laryngologie, etc. (Bordeaux), September 9 and 23.

Remote Results of Operations for Adenoids. BRINDEL.—
ie reflexes engendered by the presence of the vegetations dis-
pear with the cause. Persons affected with ear troubles con-
cutive to or concomitant with the vegetations, derive great
nefit from the adenotomy, whatever the affection—external
r alone excepted. Adenotomy sometimes induces a swelling
the mucosa over the turbinate bones; in some patients it
ems to favor the development of a purulent coryza; in others
leads to the cure of an atrophying coryza, with or without
ena. In about half the patients affected with vegetations
d concomitant hypertrophy of the tonsils, the latter subsides
the course of a few months, from the effect of the operation
the vegetations alone. Recurrences of adenoid vegetations
e known, but they are rare, amounting only to 1.7 per cent.
1300 cases. From the clinical point of view the recurrences
have like the ordinary vegetations with which they are his-
logically identical, and are amenable to the same treatment.

Tuberculous Perforations of Soft Palate. GROSSARD.—
ly two observations of this lesion are on record, but Grossard
s recently had two other cases under his charge. Both were
berculous subjects. In one the velum slit horizontally, form-
g a triangular perforation, and in the other lengthwise,
viding it in two. The uvula also sloughed off. Syphilitic
tecedents were denied and long-continued specific treatment
suspicion was utterly ineffective.

**Pan-Sinusitis of Face With Myxomatous Degeneration
Nasal Mucosa Cured.** MOLINIE.—The success attained in
is difficult case was probably due to the method of operating:
e frontal sinuses were first operated on, and then the cells of
e ethmoid masses and every diverticulum that could be dis-
vered were opened and cleansed at the same sitting. The op-
ated cavities were then isolated, and communication with the
se closed by packing the lower portion of the sinus with iodo-
rmed gauze with a cotton dressing applied to exclude the air.
s soon as the patient was able to undergo the second stage of
e operation, the lower sinuses were opened, curetted and sutured and, after inspection and the additional cleansing required, the upper sinuses were also definitely sutured.

Deutsche Medicinische Wochenschrift (Berlin) September 21.

Traumatic Affections of Mucous Membrane of Stomach. R. STERN.—Analyzing the cases on record, it seems that a simple traumatic laceration of the gastric mucosa may cause the same symptoms which we are accustomed to consider, the classic syndrome of ulcus ventriculi, and respond to the same treatment. The symptoms of traumatic chronic lesions are in general the same as with ulcus rotundum; the prognosis is not very favorable, although Quincke has had one case much improved by systematic lavage of the stomach and diet. Stenosis of the pylorus may result from traumatic perigastritis as well as from cicatricial constriction, and there is always danger of secondary infection of the wound of the stomach. It is not necessary that severe phenomena involving the affected organ, such as hematemesis, appear at once. In Krönlein's two cases of traumatic cicatricial stenosis of the pylorus there was no particular pain, no vomiting, and yet the resected portions showed traces of serious defects resulting from the trauma; no carcinoma, but evidences of perigastritis. It is not necessary that the accident injure the organ directly, as a fall on the feet has been known to tear the stomach lining, but a casual connection between the accident and tumor formation should only be accepted when the accident was adapted to injure the organ. There was no scientific ground for the recent decision in which a fall on the back of the head and left shoulder was accepted as the traumatic origin of intestinal carcinoma a few months afterward. Possibilities are not sufficient basis for medical certificates and we urgently need careful observations of single cases followed in detail to dispel the uncertainty at present prevailing in this branch of science. We have no grounds for the assumption that a single violent injury predisposes to the development of malignant tumor, which is more probable with frequently repeated mechanical injuries, chronic inflammation or cicatricial formations. If there are no indications that the stomach was injured at the time of the accident, there is no ground for the assumption of a traumatic origin for a neoplasm appearing later. The tumor may have existed unnoticed at the time of the accident, and great attention should be paid to this possible contingency in examining soon after accidents. A latent carcinoma which received the impulse to grow from the trauma would not make any manifestations for a few weeks at the earliest, and would scarcely develop into a palpable tumor under several months. It is impossible to designate any time limit as the latest for the apparition of a tumor of traumatic origin, but in a general way it may be stated that a carcinoma appearing later than two or three years after the trauma—which is the limit of the development in by far the largest majority of cases—may possibly owe its origin to the trauma, but the evidence is not sufficient for a medical assertion to that effect.

Suggestion Therapeutics in Internal Medicine. A. HOFMANN.—Eleven cases are described in detail, treated by suggestion alone. It was strikingly successful in habitual constipation and insomnia, hysteric cramps and neurasthenic headache. Each case was followed and no possible ill-effects of the treatment could be discovered; the patients were cured as perfectly as could have been accomplished with drugs, while the deleterious effects of the latter were avoided. Hofmann considers it the duty of the physician to try suggestion in case of failure of other methods, observing that the lack of knowledge of the true nature of electricity has not deterred us from applying it in therapeutics, and we should resort to hypnosis in the same spirit.

Abdominal Fat Necrosis. P. GRAWITZ.—An observation is described in detail, corresponding to Truhart's description (JOURNAL, September 16, p. 731), and accepting the theory that the protracted action of the fat-splitting ferment elaborated by the pancreas produces fat necrosis, but it is still unexplained how the pancreatic juice gets into the fat tissue, and also why obese elderly persons are especially affected by these extensive fatal processes—Balser's disease. In one case a laparotomy was performed to arrest hemorrhage after a wound from a shotgun, and the tissues were found normal. Death ensued from hemorrhage later, and at the autopsy it was found that the pancreas had been perforated by one of the shot, allowing the escape of the juice and producing typical fat necrosis wherever it had penetrated, exactly as in Hildebrandt's experiments on cats.

Societies.

COMING MEETINGS.

Tri-State Medical Society of Alabama, Georgia and Tennessee, Chattanooga, October 24–26.

New York State Medical Association, New York City, October 24–26.

Medical Society of Virginia, Richmond, October 24–26.

American Public Health Association, Minneapolis, Minn., October 31.

Oklahoma Territory Medical Society, Guthrie, November.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27–28.

Indian Territory Medical Association, Wagoner, December.

Clinical Society of Maryland.—Dr. James M. Craighill was elected president for the ensuing year; this is one of the most flourishing of the Baltimore local societies, having about 250 members.

Idaho State Medical Society.—The newly elected officers of this society are: president, Ed. E. Maxey, Caldwell; vice-president, R. L. Nourse, Hailey; secretary, J. R. Numbers, Weiser. The next place of meeting is Boise.

Stephenson County Society of Physicians and Surgeons.—At the annual meeting of this Society, held in Freeport, Ill., October 12, officers were chosen as follows: president, J. B. Leitzell, Orangeville; secretary, J. F. Fair, Freeport.

Minnesota Academy of Medicine.—The Academy held its annual meeting in St. Paul, October 11, and elected the following officers: president, C. E. Riggs, St. Paul; vice-president, H. M. Bracken, Minneapolis; secretary-treasurer, R. O. Beard, Minneapolis.

Hodgen Medical Association.—The next meeting of this Association will be held in Pleasant Hill, Mo., next January. At the meeting of October 9, in Nevada, Mo., officers were chosen, as follow: president, R. F. Hulett, Rich Hill; secretary, J. L. Warden, Pleasant Hill.

Tri-State Medical Society.—The eleventh annual meeting of the Tri-State Medical Society of Alabama, Georgia and Tennessee will be held in Chattanooga, October 24, 25 and 26. The railroads will give reduced rates on the certificate plan. Distinguished members of the profession will be present and discuss papers.

Detroit Academy of Medicine.—The annual meeting of the Academy was held October 10. Dr. Robbins, the retiring president, gave an address on "Conservatism in Medicine and Surgery." The following officers were elected: president, Geo. Duffield; vice-president, L. E. Maire; secretary and treasurer, H. D. Jenks; director, Leartus Connor, elected for three years.

Detroit Medical and Library Association.—At the meeting of October 9, Dr. Angus McLean exhibited a new intestinal anastomosis forceps, devised by him. He demonstrated its uses on intestines taken from the cadaver. The instrument is constructed on the principle of an obstetric forceps, with a series of different-sized incomplete rings for the clamping portions. These rings have a flattened shaft that fits into a groove and niche in each handle—necessitating but one set of handles for the complete set of rings.

Conference of Health Officials.—The fourth annual conference of health officials in Michigan, under the auspices of the Michigan State Board of Health, will be held in Grand Rapids, October 26 and 27. The subjects to be especially considered are: "Bacteriology in Its Relations to the Public Health"; "Sewerage and Water-Supply"; "Water Purification"; "Typhoid Fever;" "Tuberculosis Among Animals and in Man;" "Local and General Health Administration," and "Duties and Powers of Local Boards of Health."

Wyoming Medical Association.—The third annual session of this Association closed at Laramie, October 11. The following are the newly-elected officers: president, George P. Johnson, Cheyenne; first vice-president, H. L. Stevens, Laramie; second vice-president, J. C. Hammond, Nanna; third vice-president, Fred Horton, New Castle; secretary, I. R. Swigart, Laramie; treasurer, E. E. Lovers, Hanna. The next meeting will be held in Cheyenne, on the second Tuesday in October, 1900. A resolution was introduced and passed requesting the legislature to provide a building for the valuable Wyoming fossils.

European Associations for Advancement of Science.—The British and French associations held their meetings simultaneously on each side of the Channel, in September, and each spent a day with the other, while Marconi telegraphed over to Dover without wires. The German association also met in Munich during the month, for its seventy-first annual congress of "German Naturalists and Physicians," the scientific ardor undampened by the unprecedented freshets which kept many members away.

Utah State Medical Society.—The fifth annual meeting of this Society was held in Salt Lake City, October 3 and 4. The large number in attendance and the interest shown in the papers indicated a substantially healthy growth of the society. The following officers were elected for the ensuing year: president, A. S. Bower; first vice-president, E. S. Wright; second vice-president, J. S. Gordon; secretary, J. C. E. King; treasurer, U. Worthington. On the evening of October 4, the county society tendered the state society a banquet at the Alta Club, a very enjoyable ending to an unusually interesting meeting.

Washington Medical Society.—At the meeting of this Society, held October 4, Dr. John Chapell, chairman of the Committee on Public Health, presented the semi-annual report of his committee, presenting the plans adopted for investigating the health of the pupils of the public schools of Washington, D. C. He estimates the school attendance at 50,000, 10 per cent. of which number will be thoroughly examined medically, special reference being had to tuberculosis. The investigation, when completed, is intended to show a ratio of disease only. Lack of funds prevents a more extended investigation.

Washington Obstetrical and Gynecological Society.—The 303d meeting of the Society was held on October 6. Dr. T. C. Smith, the president, read his annual address. He referred to the excellent work done in the Society during the past and previous years and recommended a more thorough study of pathology and frequent presentation of specimens to the Society. He reviewed modern study of disease and referred to recent advancements, and dwelt at some length on the value of the Army Medical Museum at Washington as an educator in general and special medicine. Dr. Smith has just completed his second term as president.

Medical Association of Greater New York.—At the meeting of this Association, held October 11, Dr. Austin Flint, in assuming his duties as president, congratulated the Association on the fact that it started off with a charter membership of over 200, a fact quite unparalleled in the history of medical societies in New York City. Health Officer Doty had expected to present an account of his researches in regard to the yellow fever antitoxin serum, but owing to his absence in Europe his paper is to come at a later date. The paper of the evening was by Dr. A. A. Berg, on "Subphrenic Abscess." He reported three cases from his researches in Mount Sinai Hospital, presenting one of the patients who had been successfully operated on.

Cumberland County Medical Society.—The semi-annual meeting of the District Medical Society of Cumberland County, New Jersey, was held in Millville, N. J., October 10. The Society seems to be growing both in membership and interest. Resolutions in memoriam of the late Dr. Hamilton Mailly, who for several years served the Society efficiently as its secretary, were adopted. Dr. J. C. Applegate was elected secretary ad interim. Dr. L. L. Hand was selected for reporter for the ensuing year. Dr. H. W. Elmer presented a paper on "Historical Reminiscences," covering a period of nearly thirty years. Several interesting cases were reported and discussed.

Northwest Arkansas Medical Association.—This Association was organized at a joint session of the Washington and Benton County Medical Societies, held at Springdale, Ark., October 10. The following officers were elected: president, H. H. Canfield, Siloam Springs; first vice-president, D. Lindsey, Bentonville; second vice-president, H. D. Wood, Fayetteville; secretary and treasurer, J. H. Brewster, Prairie Grove. The Association will meet on the first Tuesdays in June and November, the next meeting at Bentonville, in June, 1900.

Fulton County Medical Society.—At the recent session of this Society, held at Canton, Ill., the feasibility of the establishment and maintenance of a hospital at Canton, was discussed. It was agreed that such an institution would be a benefit to the county, as well as to the city. The subject was referred, for further consideration and report, to a committee of which Dr. Shallenberger is chairman. The other members are E. H. Heise, Canton; P. H. Stoops, Ipava; J. W. Connelly, Farmington, and A. J. Baxter, Astoria. The election of officers resulted in: president, E. W. Regan, Canton; first vice-president, Dr. Bennett; secretary, Dr. Ray; treasurer, Dr. Harrison. The next meeting will be held at Fairview, December 5.

American Academy of Railway Surgeons.—A feature of the meeting of the Academy, held at Omaha, Neb., October 13 and 14,was a speech by Dr. A. I. Bouffleur, Chicago, president of the International Association of Railway Surgeons, urging the amalgamation of the two societies. Dr. Bouffleur believes that by banding together as one body, the Association could exert greater influence, command more respect, and do more good toward developing and furthering the scientific interests of railway surgery than by having two separate and distinct societies. At the conclusion of his remarks, the president of the Academy, Dr. Grant, appointed a committee, consisting of Drs. J. T. Eskridge, John E. Owens, and D. S. Fairchild, to consider the practicability of effecting such a union. The committee reported subsequently that it was inexpedient at this time to accept such a proposal. The Academy has 142 active members, including those elected at this meeting, and 8 honorary. Officers for 1900 are as follows: president, Charles A. Wheaton, St. Paul, Minn.; first vice-president, A. F. Jonas, Omaha, Neb.; second vice-president, J. T. Eskridge, Denver, Colo.; secretary and editor, T. B. Lacey, Council Bluffs, Iowa; treasurer, D. S. Fairchild, Clinton, Iowa. The next place of meeting will be St. Paul, Minn., the time to be fixed by the executive board.

Mississippi Valley Medical Association.

Abstract of Proceedings of the Twenty-fifth Annual Meeting, Held at Chicago, Oct. 3-6, 1899.

(Continued from Page 979.)

MAMMOTH OVARIAN TUMORS: REPORT OF A CYST WEIGHING 245 POUNDS.

Dr. James B. Bullitt, Louisville, Ky., presented this paper. Only growths weighing 100 pounds or more have been considered as mammoth tumors. A search through literature has developed reports of 23 such tumors. Brief summaries of these cases are given. The largest of these tumors weighed 202 pounds.

The essayist adds a twenty-fourth case by reporting in detail the case operated on by Dr. A. M. Cartledge, Louisville, in May, 1897. The tumor sac and contents together weighed 245 pounds. There were a great many adhesions encountered and the operation was prolonged. The woman rallied from the shock and was in good condition at the end of five days, when obstruction of the bowel became manifest, the patient dying on the seventh day.

In considering the twenty-four cases, it is observed that twenty-one cases were operated on. Of the fifteen in which recovery took place the average tumor weight was 129 pounds; while of the six in which operation was followed by death the average weight was 181 pounds.

There are manifestly but three methods of dealing with these tumors: 1, immediate extirpation; 2, preliminary tapping, followed in a short time by extirpation; 3, tapping repeated as often as necessary to relieve uncomfortable distension.

To illustrate that life may be long sustained by constant tapping and withdrawal of fluid, the case of Dr. Ap. Morgan Vance is cited, where the woman was tapped 179 times between the ages of 34 and 80 years, it being computed that in this time 21,480 pounds of fluid were withdrawn.

In so far as any conclusions can be drawn from the study of these 24 cases the following are submitted:

1. The fatality from such tumors is directly proportioned to the size of the tumor.
2. Extensive adhesions to the parietes and viscera militate against successful operations, but are second in importance to the size of the tumor.
3. Preliminary aspiration followed by extirpation in a few days is apparently no safer than immediate operation.
4. Marsupialization is contraindicated in tumors of mammoth proportions.
5. Successive tappings are sometimes tolerated over a long period of years, but lead ordinarily to exhaustion and death in a comparatively short time, a few years.
6. When death occurs after operation it is most apt to be immediate, within a few hours, as the result of shock. If this first danger is passed safely, the fatal issue is apt to be the result of obstruction of the bowel, especially in those cases where extensive adhesions are present.

Dr. A. H. Cordier, Kansas City, Mo., mentioned the case of a woman, colored, 43 years of age, who had carried an ovarian cyst for eleven years. The cyst with its contents weighed 160 pounds. The patient died on the ninth day following operation from exhaustion.

CONSERVATIVE SURGERY.

Dr. S. L. Kilmer, South Bend, Ind., reported an interesting case of an arm saved after being run over by a railroad locomotive and badly crushed. The case was cited as a plea for greater conservatism in such injuries. (See also ¶ 151, p. 1036.)

SURGERY OF THE BRAIN.

Dr. George W. Crile, Cleveland, Ohio, followed with a paper in which he detailed his observations on the surgery of the brain, which were based on clinical and experimental evidence.

OBSTIPATION AND ITS RADICAL TREATMENT.

Dr. Thomas C. Martin, Cleveland, Ohio, read a paper with this title. He said that the rectal valve is an individual anatomic organ in itself, and must now be reckoned with in studying the operations of the integral mechanism of defecation.

When the muscular elements are relaxed and the gut is either greatly dilated or else is even in lesser measure distended, the valve is passively supported by its fibrous band across the channel to resist the hurried or uncontrolled descent of the feces. The presence of the band of fibrous tissue under the free margin of the valve provides a *control* to receive or retain a bolus, or, it may be said, the several valves receive a series of boluses till a sufficient pressure is made to stimulate the complex involuntary mechanism of defecation to further propulsion of the feces or to a reversed peristalsis. The presence of feces or the involuntary movements incident to their presence signals the consciousness to co-operative voluntary expulsory effort or give warning of the necessity of voluntary resistance. The valvular arrangement of the rectum provides for the minimum expenditure of energy on the part of the voluntary forces, for the reason that the gut's contents are collected on the surface of the unyielding sacrum and steadied there to receive the pressure of the really expulsory voluntary effort. Such an arrangement of the feces further facilitates defecation for the reason that the entire contents of the rectum are not rushed on the anus at once.

If it be the function of the normal rectal valve to beneficently retard the descent of the feces, it is obviously true that it may be the especial property of the valve, in certain other than normal conditions, to maliciously obstruct the descent of the feces.

The patient is the subject of more or less chronic irregularity of defecation. He some days makes frequent partially successful attempts to evacuate the rectum, but may experience an unrequited desire for stool. The patient acquires the reprehensible physic habit. In time the periods of obstipation are interrupted by diarrhea. There is commonly an ineffectual straining at stool except for fluid feces.

The writer described a method for division of the obstructing valve and presented cases.

APPENDICITIS.

Dr. James T. Jelks, Hot Springs, Ark., reported a unique case of appendicitis, and made some remarks on the treatment of this affection.

APPENDICITIS FROM A MEDICAL STANDPOINT.

Dr. I. N. Love, St. Louis, Mo., read a paper on this subject. These papers were discussed at length, but nothing new was brought forward by the speakers.

THE MODERN SMALL-BORE PROJECTILE.

Dr. Augustus Schachner, Louisville, Ky., read a paper on the modern small-bore projectile.

SURGICAL TOLERANCE AND RESULTS.

Dr. F. F. Bryan, Georgetown, Ky., read this, the last paper in this section. The essayist concludes that tolerance is due: 1. To individuality of the subject. 2. To the vital resistance furnished by organs capable of performing their functions. 3. By the immediate necessity for the part by the body as a whole, for the aid of the part operated on, in carrying on life. 4. Preventing or limiting shock. 5. Limiting hemorrhage. 6. Preventing or limiting sepsis and removing the same. Results will depend on: 1, refusing operation to a hopeless class of patients; 2, painstaking care to make the procedure thorough; 3, demanding sufficient time for thorough convalescence and adaptation of the patient to the changes that have been wrought.

MEDICAL SECTION.

ENZYMES AND IMMUNITY.

Dr. Charles T. McClintock read a paper in which he deduced the fact that the enzymes are unorganized ferments and directly responsible for immunity.

RECENT PHYSIOCHEMIC RESEARCHES AS TO THE PHYSIOLOGIC ACTION OF LECITHIN AND OTHER PHOSPHOROUS COMPOUNDS.

Dr. L. H. Warner, Brooklyn, N. Y., read a paper on this subject. By means of numerous experiments he demonstrates that the organic phosphorous compounds are tissue builders, performing an important part in the tissue metabolism, especially in the causation of subsequent changes in the animal cells and controlling the formation of tissue. No abnormal conditions result if food contains a sufficient amount of lecithin, phosphocarnic acid and other phosphorous compounds. The most beneficial results follow their use, and they are therefore indicated in the treatment of all wasting diseases. Lecithin is always found in mother's milk, in lesser quantities in cow's and rarely ever in the artificial infants' foods, hence their inefficiency. Organic phosphates, lecithin and phospho-carnic acid are necessary in order to maintain perfect health.

These salts are derived from any of the body tissues, and especially from beef when they are to be added to any artificial foods.

SOME PHASES OF MALARIA—QUININ IN.

Dr Wm. B. Burns, Deckerville, Ark., the author of this paper, is of the opinion that malarial and typhoid fever are never found present in any one individual at the same time; furthermore, he makes the positive statement that any fever which does not yield to the proper administration of quinin is not malarial, and if typhoid has been excluded by diagnosis, the condition is due to an auto-intoxication

He cited one case of malaria developing marked purpura hemorrhagica and hemoglobinuria which responded readily to quinin and tincture of iron perchlorid. Another case simulating pneumonia, with the hematozoon present in the blood, however, also yielded to alterative treatment and quinin.

Symptoms of abnormal renal function, such as albuminuria and hemoglobinuria, so often found in malarial cachexia, completely disappeared after the use of quinin. He has not been able to demonstrate the malarial organism in any stage of development in the mosquito, although he found an abundance of pigment, but not of the malarial variety. He administers quinin in from 3 to 5 grain doses every three hours, for from twenty-four to forty-eight hours, beginning at the commencement of the decline of the fever, as the plasmodium at this time is less capable of resistance and phagocytosis is at its best. In malarial cachexia quinin should be administered in 3 to 5 grain doses three times daily, preferably on a full stomach, in order to avoid tinnitus and nervousness. Relapses may be prevented by 10 grain doses on the fifth, sixth and seventh days, at bedtime.

Dr. L. H. Warner, Brooklyn, N. Y., remarked that Dr. Burns made a rather bold statement by saying that any fever which does not yield to quinin is not malarial. Quinin is a poison only to the full-grown germ, but does not kill the spore, consequently, if given for even thirty or forty days, it kills the germ, but the spore escapes, and it may for years lie dormant until a favorable moment arrives for it to develop and produce a new paroxysm.

The amount of chlorids in the blood constituents and in the blood plasma exceed the total amount of sulphates and chlorids. The parasite attacks the red blood-corpuscle and destroys it. Now, if there is a superabundance of chlorids, the corpuscles are not destroyed; therefore, we must use chlorin, and it will destroy not only the organism, but its spores as well. Cases coming from the hot-beds of malaria were dosed with quinin up to 40 grains at a time, and still the parasite grew, but as soon as the patients were put under treatment with quinin simplex plus chlorin, or chlorin plain, there was neither organism nor spore left.

Warner thinks that chlorin is one of the most important factors in the treatment of malaria, and it may be used alone or with quinin plain, but not the sulphate.

Dr. T. B. Greenly, Meadow Lawn, Ky., mentioned that in the "good old times" they did not give quinin until the fever was modified. They bled, purged and salivated, but gave none. In many cases the patients were far gone when the time arrived for the adminstration of the drug, finally forcing him to the conclusion that if quinin was good for fever, it was good while fever was present as well as when it was not. After regulating the bowels with rhubarb, he administered the quinin. With this method he lost only one case in a period of over six months, and that was a case of the congestive variety. In every instance he effectually combated malaria by its administration.

Dr. Warner mentioned having had a case of undoubted typho-malarial fever in which were found both the malarial organism in the quartan form, as well as the typhoid bacillus. After the patient's death the question arose, between Dr. Warner and Dr. Sternberg, as to how to make out the death-certificate, as both germs were present. Under the existing circumstances, during the last war, and also during the Civil War, there were undoubtedly cases in which there was a combination of malaria and typhoid, and the term "typho-malarial fever" would be the proper one to use, as both germs were found present.

SUCCESSFUL TREATMENT OF A CASE OF GRAVES' DISEASE AS AN AUTO-INTOXICATION.

Dr. Charles L. Minor, Asheville, N. C., read a paper, in which, after reviewing the various theories of the etiology of Graves' disease, and especially the thyrogenic theory, he reported two cases which he treated on the supposition that the disease is dependent on an intestinal auto-intoxication. A postive cure resulted in one of them. He bases his belief on the constant presence in excess of ptomains in the intestine, and their violent effects on the system and especially on the gastro-intestinal tract. Treatment consisted of a strictly regulated diet, in which the starches, sugars and table dainties were cut down to a minimum, or entirely eliminated, rest at first followed by carefully graded exercise, and good hygiene. Medication consisted of the lactate or albuminate of iron, antiferments at meal time, an occasional mercurial purge and intestinal lavage, to which the author has given the unique name of "liver wash." Large quantities of water are used at a temperature of 102 F., and are retained one-half hour. This increases the liver activity and all the emunctories are stimulated, thus effectually eliminating all toxins. Lavage is continued at intervals for over a year, and in one case was followed by an apparently complete restoration to health except for a slight, almost imperceptible, prominence of the thyroid. The second case, while still presenting objective symptoms, is entirely free from any subjective symptoms.

Dr. George W. Webster, Chicago, remarked that the treatment at present is based on an increased activity of the thyroid gland with altered secretion, which acts on an unusually nervous system. He referred to a reported case which had been treated by injections of bile as high as 100 grains a day, on the supposition that bile acts as an antiseptic, a cure resulting. At the same time he called attention to the fact that nearly 50 per cent. of these cases get well without any treatment whatever, others by surgical means, and still others by means of various medicinal agents. This does not furnish any clue, however, as to the real cause for the increase and perversion of the thyroid activity. Dr. Minor's paper establishes a primary cause in at least two cases, and must therefore be considered as an important contribution to the study of Graves' disease.

Dr. Hugh T. Patrick, Chicago, does not agree with the essayist, in that the poisons generated in the intestinal tract, and which are absorbed from it, play any part in the causation of Graves' disease. These noxious substances from the bowel are etiologic factors only in so far as is alcohol, syphilis, overexertion, etc., in any other disease, and to draw conclusions from two cases is a practice which is not to be recommended in medical research. Proper care must be given to the intestinal tract in any disease, and the numerous investigators on this subject have as yet not been able to adduce anything which might be considered as a positive proof that auto-intoxication of the intestinal tract can have any bearing as a cause of Graves' disease. After briefly referring to the various methods of treatment, Patrick mentioned one case which had been subjected to every known treatment without avail, and was finally taken home in a very serious condition. All treatment was discontinued, and inside of three months the patient had perfectly recovered.

Dr. Minor, in closing, stated that he did not intend to use these two cases as an argument for all cases of Graves' disease, but intestinal auto-intoxication he believes to be one of the primary causes of the affection, and it certainly is worth while to give this condition of the bowel proper attention, as it has been almost entirely overlooked by previous investigators who lay most stress on shock, fright, dietetics, etc.

(To be continued.)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Abstract of Proceedings of Twelfth Annual Meeting, Held at Indianapolis, Ind., Sept. 19, 20 and 21, 1899.

(Continued from Page 982.)

THIRD DAY—MORNING SESSION.

HEMORRHAGE AND THE MENOPAUSE.

Dr. John Milton Duff, Pittsburg, Pa., contributed a paper on this topic. The essayist does not believe that hemorrhage is a necessary concomitant of the menopause. When it does occur, other than as a metrorrhagia in the true sense of that term, it is in 95 per cent. of the cases significant of a pathologic condition. During the past three years he has interrogated, or has had others do it for him, 482 healthy women over 52 years of age. Of these only 39 gave a history of what could be termed a hemorrhage during the menopause, and out of this number only five gave a history of hemorrhage of any persistency. In 187 tabulated patients, between 43 and 50 years of age, suffering from uterine hemorrhage, 19 were due to pregnancy, 48 to malignant disease, 53 to fibroids, or uterine cysts, 10 to diseased endometrium, 26 to diseased appendages, while in 31 no positive diagnosis was made. In view of such statistics the author fails to see how any physician can argue as he had heard them do, that hemorrhage during the menopause is not as a rule significant of disease. Finally, "all persistent hemorrhages during the menopause should be regarded with suspicion."

Dr. D. Tod Gilliam was very glad Dr. Duff had written a paper on this subject. It is one that will do much good, provided it is distributed among the general profession. Every Fellow of the Association is fully aware of the importance of hemorrhage coming on at irregular intervals or in such quantities as would be abnormal in women, but the general practitioner is not alive to the importance of the subject, and surely the laity is very much at fault. It is a common thing for a woman to regard a case of extraordinary bleeding from the genitals with perfect complacency. She regards it as the harbinger of a change which a great many women look forward to eagerly; but, as the essayist has said, in 95 per cent. of the cases the hemorrhage is an indication of pathologic changes. Notwithstanding this large percentage, Dr. Gilliam believes that it is possible for a woman to have an abnormal discharge of blood from the uterus without a pathologic change, either systemic or local. Sometimes these changes are difficult to grasp; even with the most careful and scrutinizing examination, physicians fail to find the cause of the hemorrhage. But there is a cause back of it, and this could not be physiologic when hemorrhage came on in this way. Many cases were indicative of malignant disease, others of fibroid degeneration, and still others of a diseased condition of the endometrium itself, etc.

Dr. T. J. Crofford, Memphis, Tenn., agreed with Dr. Gilliam that most of the cases of hemorrhage at or near the menopause were due to pathologic conditions. Two years ago the speaker prepared a paper on this subject, for the Texas State Medical Society, which was subsequently published in the transactions of that body. In it he covered essentially the same ground as did the essayist. He believes that the general practitioner is the one that is more responsible than the specialist or gynecologist for regarding these hemorrhages as indicative of the approach of the menopause, rather than of pathologic conditions taking place. The general practitioner should be better informed on these points.

Dr. Walter B. Dorsett thought it was wise to go one step further in regard to enlightening not only the general practitioner, but the medical student. Professors in medical colleges ought to dwell more particularly on the subject of symptoms in regard to cancer at or about the menopause. He thought that possibly the late Mr. Tait was more or less to blame in educating the profession in regard to the symptomatology of cancer. In his first book he made the declaration that "of all the diseases to which flesh is heir there is nothing more painful than cancer of the uterus." That has not been the experience of Dr. Dorsett. He has seen a number of cases in which hemorrhage has been the principal symptom, and that pain, except in very advanced cases of the disease, is almost always absent. This is particularly true in disease of the cervix rather than the body of the uterus.

Dr. Duff, in closing, said he felt that in bringing his paper before the Association he would be enabled to do more good than if he had read it to a local society, because the Transactions of the Association were published far and wide in the leading medical journals of the country. He said that we owe it to ourselves and to humanity to try and make an impress on the general practitioner regarding this important subject. He did not wish to be understood as attacking the general practitioner, because many of them were the noblest men in the profession, but it was a lamentable fact that very many physicians were wrong on this subject.

REPORT OF FOUR ADDITIONAL CASES OF UTERINE FIBROIDS COMPLICATING PREGNANCY.

Dr. M. Rosenwasser, Cleveland, Ohio, presented this report. To the four cases, the writer added abstracts of three previously published in the Transactions of this Association, Volume ix, pages 414 and 419. The report formed the basis of a discussion of the subject under the following headings:

1. Before delivery: *a.* In the interest of mother and child—1, non-intervention; 2, myomectomy; 3, Porro operation; 4, vaginal Cesarean section. *b.* In the interest of the mother—1, induction of abortion; 2, hysterectomy.

2. After delivery: *a.* Non-intervention. *b.* Hysterectomy, indicated by recurrent hemorrhage, and septic infection.

Non-intervention is recommended whenever, on account of its location, the tumor does not interfere with delivery, or when its moderate growth will admit of delay for viability of the child.

Myomectomy for pedunculated fibroids is a safe procedure; but the enucleation of fibroids before viability risks the life of the child, as abortions are frequent. After viability it is indicated when it is desirable and possible to preserve the uterus, or during labor when myoma of the cervix obstructs the pelvis and can not be dislodged. The Porro operation is the safest procedure after viability of the child, or at term if the tumor obstructs delivery and if the uterus must be sacrificed. Vaginal Cesarean section, as proposed by Duhrssen, has not yet been tried. Induction of abortion is considered more dangerous and less readily controllable than hysterectomy. Distress from abdominal distension or pressure, interference with vital functions, great and constant anxiety may require hysterectomy as an emergency operation. When the tumor is located in the lower segment of the uterus, or in the anterior lip of the cervix, or in the broad ligament, and encroaches on the pelvic space so as to constitute a barrier to delivery, the patient is entitled to her choice of time of intervention, whether before or after viability of the child.

After safe delivery, only distinct indications warrant any interventions. Post-partum hemorrhage and sepsis should be managed the same as though no tumor were present. Hysterectomy becomes necessary during the puerperium, when the hemorrhage can not be permanently checked, or before infection or sloughing of the myomatous uterus, or the retention of the secundines has led to general acute septicemia.

Dr. John M. Duff said it was not wise to be too hasty in obstetric work, because oftentimes where delivery of the child seems impossible, early in labor, pregnancy goes on to term and the child is delivered without any trouble. He narrated the case of a woman who had a pedunculated fibroid in the pelvis, low down, with the uterus above. The woman was five months pregnant when he saw her. She was also seen by Drs. Sutton and King, who both advised operation. Dr. Duff also advised it because he could not see how the child could be delivered without Cesarean section or Porro at the end of term, and that if the tumor were removed at this time it would give her a better chance. Operation was refused. To their astonishment, one night Dr. King was called to see her when she was in labor and doing nicely; the fibroid was away up in the abdominal cavity, and the woman was delivered practically without any trouble. If operations of this kind are necessary, with a careful technic a great deal can be done without danger to the child in the removal of fibroids.

Dr. T. J. Crofford mentioned a case that had been diagnosed, between pregnancies, as a fibroid tumor, and the woman desired an operation for its removal. He told the woman to come back to see him in a few days. In the meantime she was greatly reduced and had become too weak to have an operation. He gave remedies to build her up and get her in a condition so that when labor set in he could do a Porro operation. When labor came on she had no difficulty, and after it she escaped infection, but still the tumor was present. Now the woman is in a good condition, but he does not know how the tumor is going to behave. She is much disappointed because she is not rid of it. He thinks that possibly if he had done an operation at the time of labor, things might have been worse for her.

Dr. D. Tod Gilliam thought the indications for operative interference were marked in a very large proportion of the cases. When a mortality of 50 per cent. resulted from noninterference, surgeons knew that it could be improved by operative interference. By early operative interference a very large proportion of the cases can be saved, but the life of the child must be considered.

Dr. H. W. Longyear, Detroit, Mich., stated that statistics do not always prove the thing that we desire them to do. Statistics of 50 per cent. mortality do not prove very much in his estimation, for the reason that there are a large number of cases of fibroids complicating labor, from which physicians never hear. The general practitioner does not report these cases if they turn out all right. It is only the cases that find their way into medical literature, in which the specialist is called. It is difficult to classify the cases in such a way as to lay down any rule for operation or non-interference. The thing, then, simmers itself down to individual judgment in each case.

Dr. Rosenwasser, in closing, said that he felt that the spirit in which the paper was discussed was exactly the spirit in which he had written it, that is, each case must stand on its own bottom. He called attention to the danger of cases after delivery. The dystocia is relieved at the time of labor, but the obstetrician is not by any means through with his case, and cases will occur where there may be hemorrhage, sepsis, and finally death, where the uterus has not been interfered with.

SOME OBSERVATIONS ON TEMPERATURE AFTER INTRAPERITONEAL OPERATION.

Dr. Lewis S. McMurtry, Louisville, Ky., read this paper. He pointed out that fever is the most constant accompaniment of inflammation, and is the first effect of the inflammatory process on the general organism to be manifested. Pyrexia is due to the presence in the blood of substances capable of causing it, and such are afforded by various systemic diseases and infective fevers. The ptomains evolved and absorbed in the course of gastro-intestinal disturbances are common causes, and chemical products of bacterial activity are the substances most familiar to the surgeon as causes of febrile action. Tissue necrosis, even without associated bacterial invasion, will beget fever; and fever often accompanies subcutaneous injuries, such as simple fractures, wherein infection is impossible except by bacteria circulating in the blood. Experimental study of fever by Kohler and others indicates that fibrin-ferment when set free in extravasated blood and absorbed through surrounding tissues will cause fever. Another substance found in the blood-clot and breaking-down tissues, known as nuclein, will have the same effect, it is claimed. A careful study of the phenomena of shock will convince one that certain nervous influences may exert a potent influence in causing fever, quite independent of any infection.

An elevation of temperature commonly follows all surgical operations of magnitude, even when a painstaking aseptic technic has been observed and primary union follows. Billroth attributes this rise of temperature to the absorption of tissues in and contiguous to the wound, which had been devitalized and broken down by the traumatism of the operation, and termed it "traumatic fever." Bergmann ascribed the pyrexia to absorption of fibrin-ferment, and suggested the term "fermentation fever." Volkmann attributes the condition to the absorption of disorganized tissues in the wound, and proposed the term "aseptic fever."

The essential and all-important point in this inquiry is as to whether there is such a post-operative fever as to justify Volkmann's term of "aseptic fever." In well-appointed hospitals, it is constantly demonstrated that immediately after abdominal section, there is a rise of temperature ranging from 99.5 to 101 F. even in cases of aseptic healing without suppuration. Clinical observation daily confirms the experimental demonstrations of Welch, that the blood is endowed with positive germicidal power capable of overcoming pyogenic bacteria, so that wounds heal primarily and aseptically despite minor degrees of infection. The efficiency and limitation of this resisting function of the blood depend more on the quantity of infecting material than anything else. The difficulty and imperfection of skin disinfection, both as to the field of operation and the surgeon's hands, are so well-known that it is apparent that a slight degree of infection obtains in all operation wounds and does not lead to suppuration nor necessarily prevent so-called aseptic primary union. Hence primary union can not be accepted as absolute proof of perfect freedom from germ infection.

The distinguishing peculiarity of all the absorption fevers, including so-called aseptic fever, is their manifestation immediately after operation. The profound infection which prevailed in pre-antiseptic days rarely manifested itself before the end of the second or beginning of the third day. The temperature of a stitch abscess does not appear until much later. The absorption fever which has been termed aseptic may quickly subside, or it may persist for many days and give much anxiety in a case wherein all other symptoms are favorable. The pulse will usually afford valued assurances of safety.

All cases of immediate fever following abdominal operations, however, are not to be attributed to absorption. In a certain proportion of cases the fever is due to the reaction that follows shock. The action of prolonged anesthesia on the kidneys, heart, stomach and lungs may have much to do with this, when every precaution is taken to prevent shock by the retention of body heat. Here again the rate and quality of the pulse will aid in excluding sepsis.

TECHNIQUE OF ABDOMINAL HYSTERECTOMY.

Dr. J. Henry Carstens, Detroit, Mich., read a paper with this title. The following is a résumé of the paper: The usual careful aseptic preparations are being carried out, the patient in Trendelenburg's position. After freeing adhesions, the uterus and growth are pulled out of the abdominal cavity with the aid of a cork-screw. The intestines are kept in place by abdominal towels, and clamps are placed on each broad ligament outside of the ovary. The broad ligament is cut one-quarter inch from clamps down as far as the latter extend. A cut is made across the uterus anteriorly from the point of one clamp to the other through the peritoneum, and the bladder is separated from the uterus. Another pair of clamps is then placed on the broad ligament down to the cervix, and the remainder of the broad ligament cut to the point of the clamps. The slight attachment to the vagina and anteriorly is then easily separated and the growth and uterus removed. It will be noted that there are four clamps, two containing each ovarian artery and two containing the uterine arteries. Each artery is now separately ligated with dry sterilized catgut. If the arteries of the round ligament are large, as they sometimes are, they also require a ligature. The clamps are removed and the stumps and raw surfaces carefully covered with peritoneum, by a running suture of dry sterilized catgut. If the cervix is removed, a small opening is left for a temporary gauze drain. If the cervix is left in, no drainage is used except in septic cases, when a puncture in the posterior cul-de-sac is made use of for a rubber drain. His conclusions are as follows: 1. In abdominal surgery, clamp the broad ligaments and remove the growth and uterus. 2. Ligate the four blood-vessls separately. 3. Carefully cover all raw surfaces with peritoneum. 4. In cases without tears and healthy mucous membrane, leave in the cervix. 5. In any diseased condition of the cervix and malignant growth, perform total hysterectomy.

TREATMENT OF INERTIA AND SUBINVOLUTION.

Dr. Charles Stover, Amsterdam, N. Y., presented a paper on this subject. The practice of discharging puerperal cases after the third day, with the direction that if anything goes wrong the doctor is to be recalled, deprives the lying-in woman of an opportunity for the detection of subinvolition. The stasis of the circulation and absence of muscular contraction leads to metritis, endometritis, retroflexion and prolapsus. Muscular contraction may be secured by the physician at all stages of labor, to overcome inertia, and during convalesence to prevent subinvolution. In the treatment of inertia during the first stage of labor, ergot is to be condemned, and rest secured by sleep. In the second stage, instrumental delivery will usually be indicated, but the slowly interrupted faradic electric current is useful, selecting the primary current when the secondary may be painful. Strychnia is to be given in doses of 1/20 or 1/40 gr., repeated in two hours, if necessary. Ergot is not advised, save in exceptional cases, and then in doses of five minims, every fifteen or thirty minutes. In the third stage, when post-partum hemorrhage may have complicated the situation, after coagula have been emptied out and secundines removed beyond doubt, the faradic current is of great value. It may be applied with one pole over the abdomen, and one at the lumbar spine. This is usually sufficient, but the intra-uterine bipolar application may accentuate its efficiency. The telescopic electrode invites sepsis. Ergot should be given hypodermically. Manual compression and massage should not cease for an instant. The treatment of subinvolution presupposes the exclusion of endometritis, fibroids, retained secundines or any pathologic state, the condition being distinguished by stasis and muscular inaction. The interrupted faradic or galvanic cur-ent is to be used daily. Hot water douches, as outlined by Emmet, are of value. Boroglycerid tampons, daily or every ther day, are likewise helpful by depleting the tissues. Ergot s still in use, particularly in sthenic and rheumatic subjects when combined with the citrate of potassium as used by Lawson Tait, in doses of one-half to one dram in a half pint of water our times daily, an hour before meals and at bedtime. Indian hemp may at times go with the ergot. Saline cathartics and an occasional cholagogue are often useful to unload the pelvic veins and quicken the portal circulation. Iron is used very arly in anemic cases, and quinia, cinchona and gentian as aduvants. Lactation is considered to be a physiologic and complementary function in promoting involution.

HOICE OF METHOD FOR TOTAL HYSTERECTOMY AND SOME POINTS OF TECHNIQUE.

Dr. B. Sherwood-Dunn, Boston, said that on his return from en years' residence in France, he advocated vaginal hysterectmy without reserve, but that fuller acquaintance with the echnic and results of the American method by the abdominal oute, in the hands of his compatriots, has modified his opinion nd practice. He says: "I first decided that cases compliated by firm adhesion were better handled through the abdomen; this left pus, cancer and simple cases, in which I include mall fribroids, for the vaginal route. Later, my natural esire for conservatism persuaded me that the simple cases, if perated through the abdomen, offered the possibility of preerving the central organ and possibly one of the appendages, which I look on as of vital import to the well-being of women f younger years. There remained then only pus and cancer ases. Now I am fully satisfied that after the removal of iseased cervical tissue and the proper preparation of the terine cavity, the removal of a cancerous uterus by the bdominal opening offers better promise of success, as it affords he opportunity to examine and remove any of the affected lands, as well as any suspected portion of the broad ligament," eaving only pus cases, which he still believes are best handled hrough the vagina chiefly because of superior drainage. He made an important point with regard to vaginal hysterectomy, n that the importance of the after-treatment of these cases as been generally overlooked and misunderstood by American urgeons, and as regards the ultimate recovery and favorable esults, this is as important as is the technic of the operation tself. The reason for this oversight is easily explained. The linics are open to all without question, in Paris, but a visitor, o follow the cases in the wards, and daily see the dressings, must obtain the consent of the hospital administration, which s difficult, and is seldom accorded." He has seen a host of his American colleagues present at the operations in his hospial service in Paris, but rarely one that had sufficient interest o secure the entrance into the hospital wards, go daily at 7:30 .m. and go through the day's routine. They all became amiliar with the technic of the operation, but very few earned the details of the after-dressing of the cases. No case, n his opinion, can be properly douched and dressed on a bedpan in bed. The patient should each time be placed on the perating-table in the operating-room, or dressing-room, if one e provided, and with the advantage of an open field brought nto view by retractors in the hands of an assistant, with a ood light and perfect asepsis, thoroughly and carefully douched with permanganate, hydrogen dioxid or other antieptic, and re-dressed with drainage of iodoform gauze, and he vagina carefully but not too tightly packed with the same material. "It will readily be seen that this is a laborious and engthy operation, which, so far as I am concerned, can not e entrusted to the hands of a nurse, no matter how competent, nd must be confessed, has had great influence in my relegating he operation to the saving of life only."

He compared the abdominal operations by Richelot, Le Bec, Doyen and Martin with the American method, much to the avor of the last named, and emphasized the advantages of the preservation of the cervix by giving five reasons in its favor. . Prolonging of operation because of hemorrhage from the ateral and posterion vaginal arteries and closing of vaginal pening. 2. Danger to the uterers. 3. In some women the s and cervix is the seat of sexual pleasure. 4. The cervix orms an integral part of the pelvic floor. 5. The opening into he vagina increases the chances of infection.

INTRAPELVIC ADHESIONS.

Dr. Walter B. Chase, Brooklyn, N. Y., contributed this paper. The author stated that in standard text-books on gynecology very little space has been devoted to the distinctive opic of intrapelvic adhesions, and it is surprising to find how ittle notice on the whole it has received from writers on gynecology and abdominal surgery. It would seem that their importance would entitle them to more study. Any surgeon of experience can recall not a few cases in which adhesions were the principal factor of trouble, often only relieved on opening the pelvic cavity. The symptoms sometimes are apparently out of all proportion to the gravity of the conditions existing. Other things being equal, diagnoses are more easily made in the female than in the male, and in those having thin and nonrigid abdominal walls. Localized abdominal rigidity has a special significance in appendicitis, ovaritis, and other acute inflammations affecting the pelvic viscera.

The character of the adhesions likely to be formed will vary according to the variety of inflammation producing them. Their plasticity and extent will be dependent on the dyscrasia of the patient, and the proximity of the period of their formation. Recent adhesions lack the strength and resistance of older ones, and the friability of those formed in the presence of septic, tubercular, and malignant conditions is marked.

In making the diagnosis, use anesthesia if necessary, determine the mobility, in every direction, of the pelvic contents, as far as is consistent with conservative manipulation, and examine the patient by percussion and manipulation in the horizontal, upright, knee-chest, and Trendelenburg postures. Too forcible handling of the parts must be avoided as dangerous, and on the contrary careless or superficial examinations will fail to differentiate easily determinable conditions. A careful logical study of the antecedent history affords valuable information. From what previous inflammatory conditions has the patient suffered? What sequelæ are due to pregnancy, sepsis, tuberculosis, and syphilis? And has traumatism been a factor? If still in doubt, resort to abdominal or vaginal section may be needful and conservative.

The deleterious influences arising from the presence of intrapelvic adhesions are numerous and complex, being partly functional and partly mechanical. Constipation, due to narrowing of the lumen of the gut, angulation, and impaired peristalsis is far-reaching in its effects. Nervous disturbances due to ovarian adhesions, and cystic irritability from bladder adhesions are more or less frequent.

The adhesions may be limited to a single band, or be so extensive as to amalgamate all the pelvic structures. What shall be done with them? Sometimes the surgeon will let them alone, and again their vicious influences will be the signal for attack surgically. Where their presence is general, it is obvious their obliteration is outside the limit of conservative surgery, yet in cases, not a few, the removing of tension at some one point will afford measurable relief. The adhesions most difficult to manage cover in old abscesses, hold in position intraligamentous growths, or connect living placenta and intestines, following the rupture of ectopic gestation.

To prevent the development of adhesions, one must, naturally, prevent the occurrence of their antecedent septic and inflammatory process. To retard their development two drugs have been long known, potassium iodid and mercurials, and to them must be added another, gold and sodium chlorid. The Brandt method of pelvic massage claims recognition, and is undoubtedly useful. In the surgical treatment of adhesions *per se* the danger is two-fold—the difficulty of controlling the hemorrhage, and the liability of new adhesions forming from the exposed raw surface remaining. To control the hemorrhage, tying or torsion, or, when this is impossible, pressure and the application of hot water, or occasionally permanent pressure by gauze packing is indicated. We have encouragement for the future in the use of Dr. Skene's electrohemostatic method. To prevent the formation of new adhesions, leave as little raw surface as possible, use absorbable ligatures, and wash, with normal salt solution, what raw surface can not be covered.

The following were elected as officers for the ensuing year: President, Rufus B. Hall, Cincinnati, Ohio; first vice-president, L. H. Dunning, Indianapolis, Ind.; second vice-president, T. J. Crofford, Memphis, Tenn.; secretary, William Warren Potter, Buffalo, N. Y., and treasurer, X. O. Werder, Pittsburg, Pa. The next place of meeting will be Louisville, Ky., 1900.

Attorney-General Oren of Michigan says: "The opinion given by me regarding Christian Scientists had no reference to the Chandler bill. It referred to section 4453, compiled laws of 1897, and was to the effect that 'Christian Science' healers come under the terms of that section as persons acting as physicians who are required to report the extent of dangerous and communicable diseases under certain penalties. I have given no opinion as to the status of 'Christian Scientists' under the new medical act."

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SATURDAY, OCTOBER 29, 1899.

MODERN CYTOLOGY.

Cytology is the most important, as well as the most fascinating, department of physiology and pathology. Though it is doubtful if we shall ever arrive at a perfect solution of the structure and functions of the cell, since all our means of investigation change its nature and put to flight that subtle something within its substance which we call *vitality,* our labors have nevertheless been sufficiently rewarded by revelations so startling as to stimulate us to further investigations.

The discovery of the cell as the ultimate unit of organic structure and the confirmation of Virchow's famous dictum, "*omnis cellula e cellula,*" closed two immense gaps in the path of scientific knowledge. Though some doubt has been cast on the importance of the cell form as a factor in organic life, its constant presence, as well as its evolution from pre-existing cells, has never been disputed.

In regard to the minute structure of the cell, W. B. Hardy[1] says, in a most thoughtful and exhaustive article, that at present four views are held. The first regards the protoplasm of the cell as being made up of a reticulum and a homogeneous fluid substance. The second looks on it as consisting of a more or less solid material, with vacuoles inclosing a fluid. The third considers it as a homogeneous jelly with granules. And the fourth believes it to be entirely homogeneous. It is an extraordinary fact that cells of such diverse functions should nevertheless not only be developed from the same cell, but even be all constituted alike and of the same substance. It is this fact that has led some to look on the cell as merely an adventiticus arrangement of the stil more ultimate, universal basis of organic life, the protoplasm. At all events the first of the views just enumerated is the one most generally accepted. The vacuoles fluidity, etc., of the other views are interpreted by mos histologists as mere sequelæ of cellular activity and therefore, not of essential importance in the cell structure. It is still a debatable question whether the reticulum or the intervening homogeneous substance is to b regarded as the real functionating constituent of th cell. As everybody knows, the reticulum or spongioplasm manifests more marked affinity for certain stain than does the enchylema or hyaloplasm. Especiall obvious is this in the nucleus, where the network as wel as the nucleolus itself is composed of *chromatin,* whil the nuclear membrane and nuclear sap are referred t as the *achromatic* substance. The action of this chromatin substance, both in health and disease, is at th present time riveting the attention of microscopists The phenomena it undergoes are remarkable, and recen observations would seem to show that in its activitie are to be found the explanation of the functions of th normal and the vagaries of the diseased cell. Unde given conditions it vanishes and reappears, changes i quantity and shape and even modifies its location withi the cell to a remarkable degree and with a surprising uniformity. Some have thought that it represented th reserve nutriment of the cell, while others have imagine that it was itself the functionating element. It i without doubt the most important constituent of the cell So constant and regular are its changes under simila conditions, that some histologists have even gone so fa as to claim they could almost diagnose a disease by th post-mortem appearance of the chromatin. Chromatolysis, as it is technically called, has come to be a significant feature in pathology and hereafter no pathologic report will be considered complete without an account of the degree and character of the changes manifested by the chromatin substance of the cells.

James Ewing, M. D., of Columbia University, ha published an elaborate study of ganglion cells,[2] that i most instructive and suggestive. Illustrations and complete bibliography add to the value of the paper which, on account of its completeness, is deserving of careful reading.

The chromatic bodies of the ganglion cells had bee seen by Fleming as early as 1882, and simultaneousl by Bend and Nissl, in 1885. It was the superior technical method of the latter investigator, however, tha enabled him to propose a new and scientific classificatio of cells, based on the character of their chromatic substances. He divided them into two classes. The smal ganglion cells, *karyochromes,* were especially distinguished by their nuclei in connection with basic stainin elements. The larger cells, *somatochromes,* exhibite their distinguishing traits in connection with the chr matic substance in the body of the cell. Subclassifications of these two varieties were then made in accordance with the appearance and arrangement of the chromatin. Objection has been offered to Nissl's classification by Benda, Colucci, Lenhossèk and others. Lenhossèk voices the chief objection when he intimates that the arrangement of the chromatic substance is purely an empirical fact without known significance. Though still a matter of dispute in regard to certain details, the importance of the chromatic substance is universally acknowledged. Some of Dr. Ewing's conclusions, of which we can not give details, are remarkable for their suggestiveness; as for example, the assertion[3] that "the lesions found in cases of thrombosis of the basilar artery and various forms of cerebral hemorrhage were equaled in intensity only in cases of alcoholism, sunstroke, tetanus, etc., but not in cases of severe general bacterial toxemia. The conclusion seems justified, therefore, that the chromatic substance of nerve-cells is more susceptible to the effects of disordered circulation than to the action of most bacterial toxins." Can it be possible that in a short time we will be able to diagnose diseases and even determine their etiology by the amount and character of the chromatolysis that has occurred within the cells? The thought is a startling one, and in addition to holding out a brilliant hope for the future, indicates the immense advances that science is making toward the explanation of disease.

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[1] Journal of Physiology, 1895-1899.

[2] Archives of Neurology and Psychopathology, 1898, i, 3. Issued Fe ruary, 1899.

GEOGRAPHIC AND STATISTIC METHODS AS AUXILIARY FACTORS IN THE STUDY OF CARCINOMA.

Is carcinoma increasing in frequency? This question is now a subject of discussion. Roswell Park of Buffalo, Finkelnburg of Germany, and others have brought forward certain statistics which go to show that the mortality-rate for carcinoma is increasing. There is some doubt, however, as to the reliability of the figures available for this kind of study. Evidence has also been brought forward to show an increased frequency of the so-called endemic occurrence of carcinoma. Behla, Behrens, Pfeiffer, Arnaudet, Schuchardt and others have narrated apparently striking examples of small cancer centers in villages, parts and streets of cities and in single houses. According to Finkelnburg, there occurs in Prussia as a whole, 1 death from carcinoma in every 40 deaths; in Corneilles, in Normandy, Arnaudet and others have demonstrated the abnormally high relation of 1 carcinoma death to 7 from other causes; in a well circumscribed part of Luekan Behla shows the proportion to be 1 to 10. This will indicate what is meant by an endemic of carcinoma. Naturally such abnormally high percentages suggest at once the influence of special etiologic conditions which are more easily studied in the small, settled and relatively simple communities in which carcinoma has been found to be so frequent. The question might well be raised whether this abnormally frequent occurrence of carcinoma in certain places, streets and houses may not prove to be purely accidental. The vagaries of chance happenings have played queer pranks in pathology as well as in other science. The influence of accident can not be wholly excluded when it comes to explain what is ordinarily meant by cancer streets and houses. In the case of the so-called endemics in small villages with a stationary population, the conditions are apparently a little too complicated to be satisfactorily explained on the score of fortuitous concourse. Hence the endemic frequency of carcinoma under such conditions merits careful study from all points of view. A good beginning has already been made by Behla[1]. The value of collective investigations of carcinoma with the object of bringing out all kinds of reliable data, peculiar local conditions, etc., is quite apparent. So far this country is the only one in which there has been established a state laboratory for the exclusive investigation of carcinoma and tumors in general. The great state of New York supports such a laboratory in Buffalo, under the directorship of Roswell Park. We need many such institutions scattered over the United States, as well as in foreign countries so that the great and unsolved problem of the malignant tumors may be properly attacked. Here is a rich field for private munificence. We are in need of extended study of the nature and frequency of malignant tumors in all kinds of animals and of the parasitic diseases of plants and trees which give rise to the tumor-like growths, or xylomas so that correct conclusions may be formed in regard to the relation of the latter, if any exists, to animal tumors. The fact that certain varieties of the organisms currently known as blastomycetes are able to produce cell proliferations which very closely resemble true tumors, so closely that it is not unlikely that some forms of productive blastomycosis are sometimes mistaken for true tumors, is certainly very suggestive and the pathogenic and botanic relations of these organisms should be fully elucidated. At present their botanic position is not very satisfactorily established; many mycologists and pathologists are inclined to look on them as parasitic adaptation forms of more highly developed or complex vegetable organisms than would appear from their relatively simple structure in the lesions they produce and on artificial culture-media. The various subsidiary but important problems of the kind indicated, as well as many others, can be systematically studied to best advantage in a properly arranged and fully equipped special laboratory in which the work can be intelligently differentiated at the same time as it is wisely co-ordinated and directed toward a definite end.

From his study of the local conditions in Luekan and other apparent carcinoma centers, Behla finds that the facts available point to carcinoma being a parasitic disease whose germs, in certain localities at any rate, are conveyed by water contaminated with vegetable matter of all kinds and richly loaded with aquatic plants and all sorts of minute organisms. Behla states that in Luekan there occur numerous parasitic diseases of the ordinary vegetables grown in the kitchen gardens, and by feeding rabbits with leaves covered with parasitic proliferations, he was able to produce a disease which greatly resembled coccidiosis. The fact that the proportion of deaths from carcinoma is abnormally high in certain localities, and that in certain years sudden exacerbations occur, are best explainable, according to Behla, on the basis of the theory that parasites are at work, which in such regions and periods find more favorable conditions for their growth. So far the geographic and statistic studies of carcinoma would appear to rather favor the theory of its parasitic origin; we are led to this conclusion by the resemblance of certain relations and by reasoning from inferences, but not by actual proof and demonstration.

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[3] Ibid. p. 576.

[1] Ztft. f. Hyg. u. Infectionskr. 1899, xxxii, 123.

TUBERCULOSIS IN CHILDREN.

The route of infection by tubercle in children is an important matter, but there are serious difficulties in the way of its determination. Children, or more especially infants, do not expectorate, and the diagnosis of tubercle in them is therefore often uncertain. The beginnings of tuberculosis are consequently not often observed. It is only when the disease is finally developed that its clinical history is a matter of notice and record. In a recent lecture, Dr. George F. Still[1] considers these facts and offers some interesting statistics, based, not on clinical observation, but on post-mortem findings, for the solution of this problem. In 769 autopsies of children, tubercle was found in 269, or 35.2 per cent. Tuberculosis was the actual cause of deaths in 252, or 32.8 per cent. From these statistics, therefore, it can be roughly estimated that about one-third of the deaths in childhood are due to tuberculosis in one form or other. While children are thus shown to be specially subject to this disease, they are not equally so at all ages, for Still shows that up to the age of 4 the percentage is as high as 71, and between 4 and 8 is still 22.5; after 8 it diminishes to 6.5. Moreover, the greater part of the tuberculosis under the age of 4—43.4 of the 71 per cent.—occurred in children under 2 years of age. This great frequency of tuberculosis in infancy has been used as an argument in favor of the idea of infection through milk, the primary lesion being in the digestive tract. It is true, Still says, that intestinal tuberculosis is exceedingly common in children; it existed in 52 per cent. of his cases examined, but so also is that of the brain and meninges—48 per cent.—and that of the lungs is far more frequent—78 per cent.

Tuberculosis has so great a tendency to generalize itself in children that the question of the primary infection is not to be settled by the mere frequency of the lesions. The fact that children swallow their sputa is to be kept in mind. There is no question as to its infectiousness, while that of ingested milk in the human species has not been absolutely demonstrated. He finds that his statistics show that in 25 cases taken consecutively, of children under 3 years, who did not expectorate, intestinal lesions were found in 19, while in a similar series, aged between 3 and 12, they were found in only 10. It would thus appear that autoinfection by the sputa in infants is a matter of serious importance.

It is in the condition of the lymphatics, however, that, according to Still, we have the best index of the presence and duration of tubercle in children. The careful study of these, in the mediastinum, mesentery, and elsewhere, their degree of caseation, dried up or calcified appearance, will, he claims, give us the best estimate of the duration of the tubercular process in the different regions. Applying this test to the 269 cases, he found evidence of primary infection in the lung in 138, and in 63 in the intestine, while in 46 the original lesion could not be satisfactorily ascertained. From these figures it would appear that in children the usual channel of infection is rather by way of the lungs, by inhalation, than by the intestinal tract. To make the case stronger, he finds that in the 89 autopsies of tuberculous children under 3 years of age, 63 appeared to have been originally infected through the lung, and 26 through the intestine, while in 91 cases between 3 and 12, the pulmonary infection was apparently prior in 55, and in that of the intestines in 36. The conclusion deduced from these figures, accepting the facts and methods, is that infection from food is less to be dreaded than that from infected air.

Still's paper, following as it does those of Bovaird and Northrop in this country, which gave even more striking figures, is significant, and the evidence and arguments they contain are not easily combated. The view of a primary infection of the lungs through infected chyle, as advanced in a recent paper, is an assumption that is hardly likely to be generally accepted, except as a curious theory; lung infection is probably by way of inspired air in the majority of cases, and while intestinal infection may easily be secondary to a primary pulmonary one, the converse is not so readily assumed or explained. While tuberculous milk is probably a real danger, it is more than probable that the peril in this direction is liable to be over estimated, it may be at the expense of the needed attention to the much greater danger of infection through the air passages.

SYPHILIS AND LEPROSY.

While the difference between leprosy and syphilis is now well established, the fact that they have in the past been confounded by some writers and the rarity of a coincidence of the two diseases in the same person makes the report of a case of primary specific infection in a leper of some interest. Such a case is recently reported by a Russian physician, Dr. Messaroche, in *Wratch*, and s noticed editorially in the *Medical Press and Circular*. 'he patient, a man, aged 47, presented himself "in the ondylomatous stage of syphilis," but also had two small rown patches on the abdomen, and a hard swelling of he left testicle with edema of the scrotum of some standng. Under specific treatment the luetic manifestations isappeared, but a further crop of anesthetic brown atches on the abdomen made their appearance. The ubsequent history of the case confirmed the diagnosis f leprosy, and its interest is in the fact that the disease ppeared to be unaffected by the concurrent syphilis, nless we are to infer that an apparent aggravation uner specific treatment was due to the disappearance of he latter. This was not apparently suggested or susected by the reporter of the case, and may perhaps be onsidered as unlikely.

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[1] Clinical Jour., London, September 27.

PHOTOTHERAPY.

The bactericidal action of light is without doubt one f our greatest safe-guards, though it has hardly been uly appreciated. Direct sunlight, it is estimated, kills he tubercle bacillus in two or three hours or even less, nd other pathogenic species are similarly vulnerable to ts rays. Acting on this knowledge, Finsen, a Danish hysician whose method is described in the *British Medcal Journal* of September 9, has harnessed the sun's ays, so to speak, for therapeutic purposes especially in he treatment of the tuberculous skin lesions of lupus. Ie has found that the chemical rays alone are effective or this purpose, and the heat rays of the red end of the pectrum have necessarily to be excluded in the conentrated sunlight he employs. His method here sugests that perhaps the movers of the blue glass craze f the seventies were wiser than they then knew, though heir diffused and diluted sunlight could not be effective o any extent. He passes his concentrated sunlight hrough a condensing lens filled with a blue solution, hus cutting off the red rays and interfering but little rith the passage of the blue and violet ones. This line f phototherapy is Finsen's special province, for several ears ago he reported therapeutic effects from the red ays, especially in certain eruptive disorders like smallox. Little, however, has been heard from that recently, ut the present work on lupus seems to promise to be a eal advance in the treatment of the disease—that is— f we can trust the accounts and the illustrations of cases ured, in the communication of Dr. Bie. It may be, owever, that he is a little too enthusiastic an advocate f his master's method.

THE OVERSUPPLY OF MINISTERS AND DOCTORS.

The question: "Are there too many ministers?" was ecently discussed in one of our metropolitan dailies. Views of ministers of various denominations were given, and it seemed to be the opinion that the answer should e in the affirmative. There seemed to be no difference f opinion, either, as to the cause of the oversupply— he large number of theological seminaries, coupled with he ease with which they can be entered and the suicidal policy of encouraging young men to enter them. Alogether the reading of the discussion impresses one with the idea that the members of our sister profession are no better off than are the members of our own. On the theory that misery loves company this may give an empty consolation to some. While no one doubts that the medical profession is overdone in this country, the oversupply does not work quite so disastrously to the physician as it does to the minister of the gospel. The latter must find an opening in the form of an organized church, the former can go anywhere, whether there is an opening or not, and hang out his "shingle." He need not worry about the probable fact that there are already too many doctors, in the place he selects, or give a second, if he does a first, thought to the fact that every patient he gets makes one less for his fellow practitioner. All that he realizes is that existence is a struggle, and that he is in the struggle. It is hardly necessary to say to our friends of the "cloth," "here too," when they lay their oversupply to too many colleges. The curse of too many colleges is much more evident in our profession than in theirs. What are we going to do about it is the important question.

"CHRISTIAN SCIENCE" AND MEDICAL PRACTITIONERS.

We regret to see that a medical man in the correspondence columns of the *Medical Record* takes up the side of "Christian Science" and is willing to subscribe his name to the arguments of its votaries. It is a fact sufficiently self-evident to anyone that an individual has the legal right to change doctors and to put himself and those for whom he is responsible under the charge of anyone in whom he has confidence, that is, provided the practitioner is one legally qualified to act in the capacity of a healer. If the law recognized voodooism, it would be his privilege to call in the African conjuror. It is an entirely different case when the morality of the procedure enters into the question. It should be evident to everyone that the right to subject a helpless infant suffering, let us say, from a disease that may be amenable to suggestive therapeutics, to exclusive treatment by a faith healer or "Christian Scientist" is properly subject to question, and when the disorder is one that is clearly only curable by surgery, such a procedure is so obviously criminal that it stultifies the law permitting it. If "Christian Science," Dowieism, and such fads were comparatively harmless delusions affecting the welfare only of their assumably responsible adherents, we might consider these as so joined to their idols that it would be best to let them alone. But they are more than this, they are Molochs to infants, and pestilential perils to communities in spreading contagious disease. It is therefore the duty of the medical profession to do what it can to enlighten the public in regard to them, and we are tempted to doubt the presence of normal mental qualifications in an educated physician who can publicly defend their existence. His good judgment is certainly impaired, to say the least.

ST. LUKE'S HOSPITAL AGAIN.

We are receiving letters almost daily asking us to "show up" the concern which calls itself St. Luke's Hospital. As we enlightened our readers in regard to this scheme for swindling physicians in the Journal some time ago (see Journal, June 24, p. 1465) it seems hardly necessary to refer to it again. But recently these people have been sending out, with their other inveigling literature, a facsimile copy of a letter which they adroitly obtained from Dr. N. Senn, about a year ago. As many of our correspondents have asked whether it were really true that Dr. Senn was connected with the concern, we wrote him suggesting that he could hardly afford to let it go without a public denial. In response he sends us the following for publication:

> CHICAGO, Oct. 12, 1899.
>
> *To the Editor:*—I have for a long time been annoyed by numerous letters inquiring about my professional relations with St. Luke's Hospital, Niles, Mich. The facts are these: Soon after my return from the war, a year ago, I received a letter from the above institution informing me that I had been appointed consulting surgeon, and that a certificate to this effect had been sent by express, charges prepaid. I had never heard of the Hospital, but its name indicated a respectable institution. I accepted the appointment, but soon ascertained the true status of the concern and at once returned the certificate, accompanied by a letter informing the president that I absolutely objected to have further use made of my name in any connection whatever with the St. Luke's Hospital. I have repeated the same request twice since, but apparently without effect. Very respectfully,
>
> N. SENN, M.D.

Lately the imitation typewritten letter, which no doubt the duped receiver thinks is a letter gotten up for him alone, has on its reverse side a list of the names of those who already belong to the "staff," and who reside in the state to which the letter is sent. The lists which we have received are those of Kansas and Michigan. Other states we hope will come in soon, for we are anxious to see them. They are very instructive and interesting, and worthy of deep study. We have no doubt that on the office walls of the physicians whose names are recorded on these lists are hung the "beautiful work of art" which cost them $10, and if they have not already done so we would urge that they hang above it the appropriate motto: "What Fools We Mortals Be." The list from Kansas contains fifty-four names, and the physician sending it writes on the margin, "only one of these belongs to any society." We were curious to know whether any of them are readers of the JOURNAL, but not one of the names could be found, either among the subscribers or among the members. The list from Michigan—the state in which the concern is located—has only seventy-five names. This does not speak well for the "home state." But among these we found—we are sorry to say it—three of our subscribers. Thus far we have learned two things: one is that the "hospital" is making a nice pile of money out of physicians; the other, that the readers of the JOURNAL are not the kind to be taken in by such bait.

MORBUS CERULEUS.

It is rather remarkable that so many of the profession continue to associate this term with congenital heart disease, although the expression itself merely refers to that peculiar lividity of the skin that occasionally supervenes some little time after birth. Theoretically considered, it might be dependent on anything which would interfere with the proper oxygenation of the blood. Thus, general venous stasis, from whatever cause, or a diminished amount of normally-working lung tissue, would act as causal factors just as readily as would any interference with the bringing of venous blood from the right heart, as for instance narrowing of or obstruction in the pulmonary artery. Indeed, Smith regarded cyanosis as a blood disease due to lack of oxygenation or an excess of carbonic acid, and as such ranked it among blood diseases proper, as leukemia. When due, however, to cardiac lesions, the most prominent cause has not been, as text-books would lead to believe, patency of the foramen ovale, but as shown by the statistics of J. L. Smith, Stillé, Morrison and others, an obstructed, rudimentary, or congenitally absent pulmonary artery. Smith's statistics are particularly interesting in that, out of the 162 cases collected, he was unable to assign all to some one of fourteen distinct divisions, the most important of which, including those already cited, were, transposition of the aorta and pulmonary arteries, one auricle and one ventricle, and a condition in which the right ventricle was divided by an extra septum. Many cases of morbus ceruleus of cardiac origin are accompanied by bruits of no constant origin or transmission, and many, if not all, of these are believed to be due, antemortem, to patency of the foramen ovale. Why, on this little opening, which is said to usually close within ten days after birth, has been thrown the whole burden of congenital heart disease, is a mystery; certainly late autopsy findings are in no way to blame. Possibly, as is the case with so many of our text-book tenets, the statement was once made by a man of prominence and has since been copied without sufficient, or indeed any, investigation. That some of these cases of congenital cyanosis are not due to congenital disease of the heart, is evidenced that by treatment—often in spite of treatment—the lividity disappears never to return. These are cases without cardiac murmur. On the other hand, many malformations of the heart and great vessels have been found post-mortem in which no cyanosis existed during life. The writer has himself seen several such. A condition so *outre* as this disease, and one of so much general interest, is certainly at present in dire confusion, a state from which the pathologists and clinicians should together endeavor to raise it.

DECISION AGAINST DIPLOMA MILL.

We direct the attention of our readers to a decision of the supreme court of Illinois in regard to the Independent Medical College, printed in our "miscellany" columns this week. This fraudulent concern is still, we understand, sending out its diplomas, and its head claims that this decision will not affect its future conduct. He will probably find himself less at liberty than he pretends, as it will be noticed the decision of the supreme court states that the facts warrant revocation of the charter and also a fine. The present laws of Illinois also make it possible to put a speedy end to future concerns of this kind, and it will be interesting to observe whether Armstrong & Co. will venture to keep up their illicit diploma-selling under a changed name. It would appear that it might be easy to exhaust their resources in time by legal proceedings. Too much praise can not be given the efficient secretary of the State Board of Health, and the attorney-general, Mr. Barnes, for their indefatigable efforts to do away with this diploma mill, and to the Governor, through whose co-operation results have only been capable of accomplishment. This decision ought to be welcome news to the medical profession of Kansas, Nevada, Oklahoma, Texas and other tates, which have been flooded by graduates of the Illiois Health University, and the Independent Medical ollege.

Medical News.

A new hospital—The Mary Washington was reently dedicated at Fredericsburg, Va.

Dr. Rudolph Matas, New Orleans, La., is on a acation trip in northern and eastern cities.

Dr. Burton K. Chance has been appointed assistant urgeon, and Dr. Walter Blair Weidler resident surgeon, the Will's Eye Hospital of Philadelphia.

The new hospital for infectious diseases, being erectd at Moscow, at the expense of W. E. Morosow, will ave 250 beds and will cost 500,000 roubles.

Cardinal Gibbons of Baltimore has made a donation f $100 to the rebuilding fund of St. Vincent's De Paul ospital of Norfolk, Va., recently destroyed by fire.

President D. C. Gilman, of the Johns Hopkins niversity, gave a reception on the 13th to the members f the medical school who recently returned from the hilippines.

The proposed quarantine against consumption in alifornia will hardly be carried out, as it is said that nly one member of the Board of Health, its proposer, avors it.

Dr. C. Urban Smith has been elected professor of ractice of medicine in the new Maryland Medical ollege, Baltimore. This is a three-year school, organzed two years ago.

Dr. Walter L. Deemer, Philadelphia, has been apointed assistant-surgeon of the National Guards of ennsylvania, and has been assigned to the Third Regment Infantry with the rank of first lieutenant.

A Russian exchange announces that a society has been rganized in Moscow to erect and maintain an asylum or aged or incurably diseased women throughout the ountry who have had a medical training.

The Paris *Gazette des Hopitaux* states that there ave been 1500 cases of typhoid fever in Paris between anuary and July 15, and 650 since. All have been on he line of the La Vanne water-supply.

Dr. P. S. Kramer, late brigade surgeon U. S. V., tationed at Santiago, Cuba, has returned to Cincinnati, hio, to take up his chair of pathology in the Cincinnati ollege of Medicine and Surgery.

The sum of $10,000 has been bequeathed to the rustees of the estate of Mary McCrea, who recently died n Philadelphia, the interest of which is to be applied or the relief of the charitable and for the care and rotection of children.

The sum of $30,000 has been left to Lafayette Colege, Easton, Pa., by Mary Effinger Appley, to remain n trust for the establishment of the Mary E. Shapley ree Scholarship to educate worthy young men of Pennylvania for the ministry and medical profession.

The steamer *Armstor*, from Baltimore, arrived in hiladelphia on the 9th, having on board yellow fever. he was detained at Reedy Island, the crew placed in uarantine, and a new one placed aboard her. The old rew will be held in quarantine for a period of six days.

The steamer *Arogonia*, which arrived in Philadelhia on October 11, having on board 150 immigrants from Antwerp, was found to have among its crew two passengers afflicted with typhus fever. Both were removed to the Municipal Hospital. One of the patients has since died.

A steamer from Bombay has arrived at Plymouth, Eng., with a patient suffering from bubonic plague, which developed during the voyage from Marseilles. The patient has been isolated and the other passengers are reported to be in good health.

The administration building of the Loomis Sanitarium for Consumptives, near Liberty, N. Y., was entirely destroyed by fire October 14; loss, $100,000. None of the inmates was injured. The burned building, which was of stone, was the gift of J. Pierpont Morgan, and will be rebuilt.

M. Scheurer-Kestner, the distinguished advocate of the innocence of Dreyfus, who died last month, besides his political prominence had high claims to distinction as a chemist. During the 60's he was an active member of the Paris Chemical Society, and was the author of a work on organic chemistry.

There is a new departure in courses at the University of the City of New York, known as the Preparatory Medical Group of the College of Arts and Pure Science. The student who pursues the course will have had at the end of the senior year, 400 hours each of biology, chemistry, and 200 of physics.

A committee representing the fifty district physicians of Philadelphia recently appeared before a meeting of the Board of Charities and Correction to argue for an increase in salaries, from $20 to $60 a month. One member of the committee stated that the average pay for each visit was not over 10 cents.

During the month just passed the inmates of the Philadelphia Hospital (Blockley) numbered 3675, of which number 1371 were insane, 953 in the hospital, 1127 in the out wards, and 224 children were on trial in homes. Dr. G. E. Pfahler was appointed assistant physician, vice Dr. S. F. Gilpin resigned.

Dr. H. C. Eyman, for many years superintendent of the State Hospital for Insane, Cleveland, Ohio, has been elected superintendent of the state hospital at Massillon, to succeed Dr. A. B. Richardson, who has been elected superintendent of the National Hospital for Insane, Washington, D. C., as noted last week.

Dr. William H. Howell, professor of physiology, has been made dean of the Johns Hopkins Medical School, in place of Professor Osler, resigned. Dr. Henry M. Hurd, professor of psychology, continues to hold the position of superintendent of the Johns Hopkins Hospital, reports to the contrary being incorrect.

An explosion of gas and fire under the sidewalk and street in Paris, September 15, spread into the basement of the adjoining building, which happened to be the new wing of the Faculté de Médicine, containing the priceless treasures of the library, with the apartments of the dean and secretary on the second floor. As the fire occurred before dark it was kept under control and finally extinguished.

As a result of the competitive examination recently held at the Central Dispensary and Emergency Hospital, Washington, D. C., to fill the vacancy caused by the expiration of the term of Dr. J. Lee Adams, Jr., Dr. Chas. G. Smith of the University of Virginia was appointed second assistant resident physician. Dr. Wm. E. Whitson was promoted to be resident and Dr. W. C. Williams, assistant resident physician.

T. B. Pandian, Madras, India, is now in Philadelphia for the purpose of raising sufficient money to provide for the purification of the drinking water used by the class of citizens known as "pariahs," in India, who are not permitted to procure water from the springs or rivers used by others. It is said that much of their drinking water is derived from puddles and stagnant pools.

The University and Bellevue Hospital Medical College, New York City, opened October 1. Every student enrolled during this year will be a four-years' student.—The Medical Department of Grant University, Chattanooga, Tenn., opened October 11, the matriculations numbering about 150.—The opening of the Medical Department of Tulane University of Louisinana has been postponed to November 2, on account of the quarantine against New Orleans.

A complete hospital has been provided on the grounds of the National Export Exposition, Philadelphia. The apartments are equipped with stretchers, a bicycle ambulance, and a complete dispensary. Three surgeons and a trained nurse are in constant attendance. Since it has been opened, nearly one hundred persons have been treated. The hospital is under the supervision of Dr. T. Hollingsworth Andrews, chief surgeon of the Philadelphia Emergency Corps, and Assistant Chief Surgeon Green R. Hulshizer.

A unique trial has just ended at Paterson, N. J., in which a dry goods clerk obtained a verdict of $1000 against the Edison Illuminating Co. for injuries received from an electric shock caused by a live wire during a severe storm. The plaintiff claimed that while carrying his umbrella, which had a steel handle, it came in contact with the end of the wire and he received a shock sufficient to cause an injury to the left arm, rendering it useless. He remained in a hospital under treatment for two months. The company endeavored to prove that the patient was shamming or was under hypnotic influence. The jury rendered a verdict as above after a conference of only twenty minutes.

Dr. Joseph S. Neff of Philadelphia, before the Board of Charities and Correction, has offered a resolution "That the attending pathologist of the Philadelphia Hospital be allowed the privilege of utilizing the pathological specimens at that institution to make autopsies for the purposes of instruction." In explanation Dr. Neff suggested that a committee of pathologists be appointed to select specimens for demonstration, and further that the consent of the family first be obtained before a post-mortem is made. Mr. Moore, a member of Council, however, stated that as a guardian of the interests of that institution he was opposed to having the bodies of those patients being used for public pathologic inspection. Action on the resolution was postponed until some future time.

The object of Dr. A. H. Doty, health officer of the port of New York, in going to Europe, as noted in the Journal of last week, was to visit Bremen, Hamburg, Rotterdam, St. Petersburg, and other continental cities for the purpose of consulting with the authorities and steamship companies relative to detaining, for observation, Russian and other emigrants, at the port of embarkation. This detention is with a view of preventing the spread of infectious diseases, particularly smallpox and typhus fever, to New York City. Dr. Doty expects to visit Sanarelli before his return, and have a conference with him concerning the treatment of yellow fever by antitoxin serum.

The new State Medical Registration Board fo Michigan met at the governor's office, Lansing, Octobe 10, and organized by the election of Dr. Malcolm Sinclair, Grand Rapids, president, and Dr. B. D. Harriso Sault Ste. Marie, as secretary. The meeting was something of an informal affair, but the twelve members discussed plans of operation. The Board ordered that a registered physicians in the state send a certified cop of their registration and diploma on which it is base to the secretary, forthwith, and at the next meetin which will be held at Grand Rapids, October 26, th work of weeding out incompetent practitioners will b commenced. The members expect the new law will e able them to protect the people against quacks in th future.

Two new French works have recently appeared, i corporating medicine into fiction. In one the plot tur on the suicide of two unhappy lovers who are given purgative by the druggist instead of the poison the ask for. The other is the history, under the veil fiction, of the locally famous row between two professo of the faculty, one of whom, Blanchard, accused t other, Heim, of misappropriating a number of instruments committed to his charge, resulting in the suspension of the latter for two years, on account of his negligence, although acquitted of direct criminalit Blanchard has not yet been able to resume his lecture as the students made demonstrations in favor of Hei The latter's term of suspension is about over. T novel, which is entitled "Monsieur le Professeur," seem to have produced rather a revulsion in favor of Blanc ard.

According to the *Indian Medical Record,* a hospit in Melbourne is devoted to the treatment of diseases women, the managing committee of which almost entirely consists of women. But when the annual appoin ments of resident physicians are made, it is said the are not given to women physicians but to young me The candidates are appointed by ballot, and a you man of good-appearance and engaging manners c rely on the votes of the women managers. This is n due to a lack of applicants of the other sex, for "with the past three months three medical women of abili have applied for vacancies in the resident appointmen but in each case a male competitor was chosen instead These facts, as the *Record* remarks, are significant, b it does not further explain them except to say that th are not encouraging to those of the gentler sex w study medicine in Melbourne. The new woman whom the normal heterosexual impulse is supposed be suppressed does not appear to be strongly in eviden in the antipodes.

The fact that the Yersin plague serum confers i munity from the start renders it extremely valuable a preventive measure in epidemics. The period duri which this immunity is conferred has not yet been de nitely established, but twenty-five days is accepted the limit. The Haffkine inoculations, on the other han immunize for a year, but immunity is not obtained u til after an interval of eight to twelve days. Consequen ly, Calmette advocates combining the two methods epidemics, either simultaneously or after a brief inte val, and if the serum can not be obtained, commen with a very small dose of the Haffkine, following lat with the standard dose. The *Kolnische Zeitung,* October 4, states that his conclusions were signed the resident and visiting physicians at a meeting Oporto, before he left for home, endorsing this su estion and the value of the Yersin serum not only as preventive measure but also as a curative, as established by clinical observation of fifteen cases treated ith it. The only death was that of a patient who was ot treated with it until the ninth day of the disease. almette's wife visited the plague hospital and personally presented money and some gift as a souvenir each patient.

Miscellany.

Inoculating Animals with Rabies.—J. Lebel of Jassy injects the virus directly into the canal of the spinal cord, says *rch. Orientales*, September. He finds this method much simler and more convenient than trephining. The rabbit dies the eventh or eighth day, the same as after other methods of inculating.

Remuneration of Hospital Medical Attendants.—Accordg to *Prog. Med.*, the hospital physician in Paris only receives 360 a year for his services, while in Germany the salary is 1330 in cities of the third rank, and, in large towns like Hamrg it is $2200 for the physician, and $2400 for the surgeon-chief, and others $1330. The nurses receive from $60 to 160.

Entozoa in the Uterus.—E. Simon records, in the *Cbl. f. yn.* of July 1, a case of catarrhal endometritis with erosion the cervix and a laceration of the perineum. There was a ick, milky discharge with a peculiar aromatic odor, and two readworms were found in the depths of the erosion. He conders the latter the cause of the endometritis, and emphasizes e odor *sui generis* of the discharge.

Sunlight on Bacillus Icteroides.—Tests at the La Plata ygienic Institute have confirmed the fatal action of sunlight the bacillus dried or diluted with water, according to *Anales Buenos Ayres*, 3 and 4, but it has been found that anaerobic ltures are very much more resistant, also bacilli in clothing nd sand. When exposed to the sun in nutritive media they not perish but their growth is very much retarded.

Bareggi's Test for Differentiating Tuberculosis From yphoid Fever.—Twenty to thirty drops of the patient's blood re drawn from the finger tip into a test-tube, and set aside r twenty-four hours. At the end of this time the clot has not tracted and there is very little serum in case of typhoid fever, ut the clot retracts and withdraws from the walls, with bundant serum formation, in case of tuberculosis.

Mayor's Hammer in Apparent Death of Neonatorum.— writer states, in the *Bull. Med.*, August 9, that he has suceded in reviving over thirty infants apparently dead, by diping Mayor's hammer in cold water and applying it to the pigastrium, to the chest above and below the breast, twice to n times. An inspiration usually follows its application for e third or fourth time, and the infant rapidly recovers from s asphyxiated condition.

Physician Fined for Co-operation with a Charlatan.—he French courts recently condemned a female somnambulist r illegal practice of medicine, but she continued her practices, eking to avoid prosecution by hiring a young physician at 0 cents an hour to be present during her consultations and confirm her diagnosis," which was frequently made from exmination of a lock of hair sent by a non-resident client. She as again arrested and the doctor with her, and they were fined 10 and $3 respectively and costs.

Lavage of Abdominal Cavity Through Vagina.—Racoiceanu-Pitesti has succeeded in removing every trace of perineal infection after operation by washing out the abdominal avity with one to twelve liters of artificial serum introduced rough the abdominal wound until the pressure becomes painful, when it is allowed to flow out again; with drainage. He repeats the process twice in the twenty-four hours; some of the twenty-seven patients thus successfully treated required ten to sixteen repetitions of the lavage.—*Revista de Chir.*

Surgical Treatment of Malignant Edema and Pustula of the Lids.—According to *Annali di Ottalmologia*, 34, an incision is made through the skin parallel with the edge of the lid, and the tissues dissected up and down, both flaps lifted and the subcutaneous tissues thoroughly cauterized and packed with gauze moistened with 1 to 2000 formol, renewed once or twice a day. As granulations form, the skin flaps are drawn down into their old place, and nothing is left of the defect except an almost invisible linear scar.

Peppermint is Rough on Rats.—K. M. Mikhailoff (*Pharmazevt. Jour.*, Aug. 25, 1899) has instituted a series of experiments for the extermination of mice without using poisonous substances. His labor was rewarded by the discovery of a peculiar dislike of mice to the odor of peppermint. He placed small pledgets of cotton saturated with peppermint-oil in openings made by the mice, and they did not show up for some time. Later the mice made an attempt to return, but the peppermint-oil was once more used and the mice have not returned since.

Prostatic Troubles Treated by Establishing a Permanent Fistula.—Piollet advocates suprapubic cystotomy and the establishment of a permanent fistula in case of hypertrophied prostate and threatening retention, describing, in the *Gaz. des Hop.*, No. 55, the observation of a patient who has been kept in good health by this means for the last seven years. Whenever the fistula has been allowed to close, violent dysuric accidents appeared at once. A secondary advantage of this method of treatment is the easy extraction of any calculi that may form.

Arthropathy of the Elbows from Fractures of the Skull.—Potel relates in the *Echo Med. du Nord* of September 10, that a lad of 14 fell, evidently fracturing the base of the skull, but recovered completely except that two months later both elbows became painful, for a time preventing the use of his arms. The pains subsided later, but recurred again at intervals. At present, eight years later, the pains still recur at times, and the joints crack, but there is no tumefaction and the young man is normal aside from this symmetric trophic arthropathy.

Trauma and Phthisis.—A. Ewald publishes in the *N. Y. Med. Monatsschrift* for September, two cases in which robust persons in the midst of perfect health, no heredity, 37 and 17 years of age, were injured in the shoulder region by a fall or a falling stone, requiring two weeks in bed. Four weeks after the accident the subjects began to cough and lose strength and flesh, and passed rapidly into chronic pulmonary phthisis with numerous bacilli in the sputa. Desoil also reports, in *Echo Med.* of October 1, two observations of pleurisy developing at once after a fall on the thorax and passing quickly into rapidly fatal phthisis. In these cases both subjects were alcoholics.

Health Reports of Medical Students.—Japan, although the youngest among the civilized nations, has made many valuable innovations which deserve to be emulated by other nations. Here is one instance. All educational institutions in Japan are obliged to send in an official report to the government concerning the health of the students. According to the *Sei i Kwa Medical Journal*, July 30, 1899, there are 1659 students in the universities of Tokyo and Kyoto, their ages from 19 to 33, height 141 to 188 cm.; weight 32 to 75 kilo; circumference of chest 70 to 97 cm.; general health, excellent 603, fair 1043, bad 13; eyesight, normal right 811, normal left 831; myopia right, 845, myopia left 826; impaired hearing 138, etc. We in this country have no means of officially finding out about the health of our students, although the advantages, both practical and scientific, to be derived from such a system are quite obvious. We suggest that our medical colleges take the initiative in collecting and presenting data concerning the health of their students.

The Nicolopoulos Theory of Sex-Determination.—Our Greek confrère bases his theory on the assumption that the ovaries functionate in turn each month, and that one ovary produces girls and the other boys. He reports that he has been very successful in the application of the theory as many happy households can testify. His method, as described in the *Jour. de Med. de Paris*, October 1, is to consider the first pregnancy as a single menstrual period as it were, and that the ovary on the other side enters on its functions the month after parturition and every alternate month thereafter. Consequently, if a girl is born from the first pregnancy, a boy will be conceived during the month after her birth and during each succeeding alternate month.

Nature of Myocarditis.—Considerable light has been thrown on the nature of this affection, by the results of inoculations of guinea-pigs, rabbits and dogs with diphtheria toxin, by Renaut and his pupils, producing acute or chronic myocarditis according as the dose was large and single or fractional. The cardiac fiber is always first affected—a typical parenchymatous myocarditis. There is no primary participation of the connective tissue in the process of reaction. In the slow, chronic, mixed form, the myocarditis comprehends a widely diffused parenchymatous element and an interstitial element disseminated in islands of sclerosis—unobtrusive islands of cicatricial lesions which do not appear for nearly or more than a year. The lesions and course in man are identical.

Sanitary Matters in Japan.—The *Allg. Wiener Med. Ztg.* states that in Japan the Bureau of Public Health is connected with the Internal Department. The country is divided into seven sanitary districts, and each community has a sanitary council consisting of police officers and two local members of the profession, druggists or veterinarians, who confer with the local officials in all matters affecting the public physical welfare. There are three Government experimental laboratories, open to private individuals for a small remuneration, and botanic gardens, serum institute, etc., and a grand central advisory board consisting of leading officials in the army, navy, universities and cabinet, with twenty experts from the profession, pharmacists or veterinarians.

Local Lavage of Blood.—Parlavecchio suggests a method for introducing antiseptics freely into the tissues without injury, in case of desperate surgical lesions or inoperable parasitic tumors: The member is separated from the general circulation by an Esmarch bandage and ligature. An artery is incised and the antiseptic fluid forced into it, while the surplus fluid flows out again through an incision in a vein near by, after having traversed the entire member. Experiments on the cadaver and on dogs proved entirely successful, except that gangrene followed the introduction of solutions of lactate of silver and sublimate. It is impossible for general intoxication to result. The antiseptic lavage could be followed by pure water, or the member could be wound with an elastic bandage to expel any remaining fluid.—*Policlinico*, February 15.

Decision Against Diploma Mill.—The supreme court of Illinois, on the 16th inst., revoked the charter of the Independent Medical College of Chicago. For information concerning the steps taken to remove from the legally chartered corporations of Illinois this notorious "diploma mill," see the Journal of March 12, 1898, p. 630. After obtaining further proof of the wholesale sale of diplomas by this institution, the attorney-general brought suit in the circuit court of Cook County to have the charter of the "college" revoked. After hearing the evidence, the court, on Feb. 15, 1899, entered a judgment of ouster. The "faculty" of the college made no defense but took an appeal to the supreme court, simply to gain time. (See Journal, October 14, p. 991.) The decree of the circuit court has not apparently interfered with the sale of diplomas. Indeed, the "faculty" has earnestly endeavored to confer as many degrees as possible, and so "lowered the scale of prices" and gave degrees for practice in Michigan, Kansas, Texas and elsewhere, to all who applied and paid. The sale has continued to the present. Early in the month the State Board of Health purchased one in Fort Worth, Texas, for $20. The transaction, however, was arranged in Champaign, Ill., through a licensed physician whom the board has since summoned to appear and show cause why his certificate should not be revoked for unprofessional and dishonorable conduct. (See Journal, October 14, p. 991.) The "physician" in this case, whom the college required to "show evidence of qualifications," was a young law student of whom the sole requirement demanded was a tender of the necessary fee in advance. Recently the "faculty" began to see ahead the "parting of the ways," and in August the institution "became affiliated" with the "Metropolitan Medical College," another "legally chartered medical college," the charte issued by the Secretary of State under the provisions of the Act of 1872. Just what this institution proposes to do is clearly shown in the following extracts from a letter sent out from the headquarters of the dying Independent:

> Chicago, August, 1899.
>
> *Dear Friend:*—Graduates of the Independent Medical College and other advanced practitioners will be glad to know that the enemies of that institution have so far failed to break it up. Since 1896 they have assailed it, and by misrepresentation, vituperation and expensive proceedings in court have endeavored to overthrow it. But it still stands and with unabated energy and undiminished success it is prosecuting its work of reform to-day. Instead of regarding as a misfortune the opposition it has met from its foes, it regards it as an evidence that its position as an institution set for the overthrow of medical monopoly, and the granting of liberty to all qualified practitioners to pursue their profession unhindered is right. The more determined the opposition, the more evincing it regards the proof that its work is needed.
>
> But the world moves, and we must not rest satisfied with past achievements. We must be prepared to meet other and greater emergencies. We must lay the foundation for a firmer footing for competent and experienced physicians, and for greater liberty to the people to employ whatever doctor of whatever school they choose.
>
> The Independent and the Metropolitan Medical Colleges each have their distinctive fields of work. There are many young men and women of ability who could not meet the heavy expense of a medical monopoly college course, but according to our method and with the assistance of a preceptor at home could secure a better practical equipment for practice than that possessed by thousands who have graduated from old line schools. The Independent has met and will continue to meet the necessities of that class.
>
> Then again there are thousands of experienced practitioners who do not so much require more knowledge as they require the authority and privilege to use the knowledge and ability they already possess. They are competent; their work has proved their efficiency and being justly entitled to a standing before the public not second to any class of physicians, it is the work of the Metropolitan Medical College to accomplish this object and with this end in view it has adopted the highest standard of any medical college in the country.
>
> . . . .
>
> Post-graduate courses are now being given practitioners at the Metropolitan Medical College. Full particulars sent on application.
>
> Very truly yours,
>
> Jas. Armstrong.

One can not but admire the naivete with which the alumni o the Independent are importuned to get under the shelter of th Metropolitan. There is little doubt that the Metropolitan wil be conducted on the same lines as the Independent. If thi be the case, its career will be exceedingly brief. Under th provisions of a statute which became in force July 1, 1899, th attorney-general may file a bill in chancery in the name of th People of the State of Illinois against any corporation autho ized to confer degrees, diplomas or other certificate or certif cates of qualifications in the science of medicine, pharmac r dentistry which conducts a fraudulent business or abuses, isuses or violates the terms of its charter, in any court havng jurisdiction of the corporation and subject-matter of such ill, for an injunction to restrain said corporation from conucting its business fraudulent or abusing, misusing or violatng the terms of its charter, and also for the dissolution of said orporation, "and thereupon it shall be the duty of the court n which said bill is filed to grant such injunction and to hear nd determine the same as in other cases in chancery. And, rovided further, that this act shall apply to schools, colleges, r universities which now or may hereafter be licensed in this State, notwithstanding any provisions that may exist in their harters."

The supreme court had no hesitation in saying that it fully ustified the finding and judgment of the court below. In fact, t was sufficient to establish the guilt of the defendant, as harged in the information, beyond a reasonable doubt, and vould have justified not only the forfeiture of the charter, but he infliction of a fine on the parties guilty of the abuses. herefore the judgment of the circuit court was affirmed.

Old Age and Criminality.—Among the subjects discussed t length at the Eighth International Congress of Crimnology, which met at Pesth, September 12, was the inluence of old age on criminality. It was stated that Finland nd Mexico are the only countries in which the laws recognize ld age as mitigating the responsibility of a criminal. "The est indication of the mental degeneracy induced by old age is he gradual extinction of altruistic ideas," one member observed. It was agreed that the evidences of mental disturbnces which are frequently noted in advancing age, ought to be egarded in criminal proceedings in determining the responsiility, and resolutions were passed recommending special study f criminal proceedings involving aged persons, with particuar reference to age, mentality, etc., and the character of the rime. Uniform legislation in all countries in respect to the 'white girl slave trade" was urged, and these congresses bring ts realization nearer, although it is slow work. The next Congress will meet at St. Petersburg or Brussels, in 1901.

Washington, D. C.

HEALTH OF THE DISTRICT.—The report of Health Officer Voodward, for the week ended September 30, shows the total number of deaths to have been 115, of which 68 were white and 47 colored. At the close of the week there were 104 cases of liphtheria and 44 of scarlet fever under treatment. During the same period there were 72 births, 40 white and 32 colored.

HOSPITAL FOR FOUNDLINGS.—Dr. Z. T. Sowers, president of he Washington Hospital for Foundlings, has presented his nnual report for the work done at the institution during the ast year. The report shows that 44 infants remained from ast year, and that 31 were received during the present year. Of the 25 deaths which occurred, 19 were under 6 months, while 6 had passed the first year of age. Eighteen adoptions were arranged. The daily average of attendance during the year was 37. An appropriation of $6,000 is asked for from Congress.

CHILDREN'S HOSPITAL.—Dr. J. W. Lovejoy, president of the medical staff, has submitted his annual report of the Hospital for the past year. It shows that 56 children remained from ast and 406 were admitted during the present year. In addiion, 59 babies were admitted, making a total of 521; 177 were white and 229 were colored. Of the 40 children who died, 12 were white and 28 colored; 2314 cases were treated in the dispensary; 309 surgical operations were performed and 7390 prescriptions compounded. The percentage of deaths, includng those from tuberculosis, was 8.65; excluding those from tuberculosis, 4.75; the number dying from tuberculosis being 18. The percentage of deaths in the baby ward was 42.37, and for the entire institution, 12.28.

HOME FOR INCURABLES.—The report of Mrs. Helen D. Mc Lanahan, president of the Washington Home for Incurables shows the institution to be in a flourishing condition and many improvements have been made in the building. Fifty-seven cases received treatment during the year, 13 new ones were admitted, 13 died, 4 were discharged. The expenses per year range from $12,000 to $13,000, and Congress is asked for an appropriation of $5000 to help defray the expenses of the coming year.

WASHINGTON ASYLUM HOSPITAL.—The report of Dr. D. Percy Hickling, visiting physician of the Washington Asylum, shows that during the past year 4373 patients were treated, of which number 226 died. The attendance this year exceeded that of the previous year by 357. Dr. George R. Sorrell, the resident physician, is highly commended for his excellent service, especially during the outbreak of smallpox in the workhouse wards. He recommends an increase in the size of the Hospital, and requests an appropriation of $50,000 for that purpose; and an additional $15,000 for the erection of a building suitable for the care of contagious diseases. A training school for nurses has been organized under the joint management of the Washington Training School for Nurses, the Central Dispensary and Emergency Hospital and this Hospital, and a modern home, with lecture-rooms for the nurses, has been completed, and a school, second to none, is contemplated.

Queries and Minor Notes.

ZIEMANN'S METHOD.

CAIRO, ILL., Oct. 6, 1899.

To the Editor:—In the JOURNAL of August 19, page 477, you mention a new blood stain. Will you kindly let me know what "Ziemann's" method is? Yours truly, H. C. R.

ANSWER:—Ziemann's method was first described by him in a work published last year ("Ueber Malaria und andere Blutparasiten," Jena, G. Fischer), but he has also written more recently in regard to it (*Cbl. f. Bact.*, etc., 1, vol. xxiv, 945). It appears to consist in the use of a double stain made by combining various proportions of concentrated filtered 1 per cent. methylene blue and eosin solutions. The alkaline methylene blue and the acid eosin are supposed to react and produce a neutral stain which colors the chromatin elements a rich carmine. By the addition of two to four parts of borax to one of the methylene blue in 100 parts distilled water, the reaction is greatly quickened.

The method is based on an earlier published one by Romanowsky, but Ziemann's stain is quicker. Michaelis' method seems to be only a further modification.

ROENTGEN RAYS DATA.

SAN FRANCISCO, CAL., Oct. 11, 1899

To the Editor:—In the JOURNAL of September 30, p. 873, there is an item on "Roentgen Rays Data Wanted"; can you give me the address of the gentleman wanting the information? P. M. J.

ANSWER:—The address is Dr. Albers, Schonberg, Hamburg, Esplandade 38. Dr. Albers says: "The material obtained from brief reports sent in by physicians will be arranged and prepared for publication and eventually be incorporated in a report to the next German Congress of Surgery."

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from September 14 to and including Oct. 5, 1899:

William H. Brooks acting asst.-surgeon, from Washington, D. C., to duty at Fort Hamilton, N. Y.

Joseph H. Carroll, acting asst.-surgeon, from Columbus, Ohio, to Jefferson Barracks, Mo., to accompany the 49th U. S. Vol. Inf. to the Philippine Islands.

Hymen M. Cohen, acting asst.-surgeon, from Fort Winfield Scott, Cal., to duty with troops going to the Philippine Islands.

J. Webb Curtis, acting asst.-surgeon, from Chicago, Ill. to Fort Thomas, Ky., to accompany the 48th U. S. Vol. Inf. to the Philippine Islands.

Benjamin Edgar, Jr., lieutenant and asst.-surgeon, U. S. A., assigned as quartermaster and commissary of subsistence of the Josiah Simpson General Hospital, near Fort Monroe, Va.

Euclid B. Frick, captain and asst. surgeon, U. S. A., member of board in New York City, to examine officers for promotion.

S. M. Gonzalez, acting asst-surgeon, from New York City to Pensacola, Fla., for annulment of contract.

Charles R. Greenleaf, colonel and assistant surgeon-general U. S. A., from San Francisco, Cal., to Manila, P. I., for duty as chief sanitary inspector of the Department of the Pacific.

Lewie A. Griffith, acting asst.-surgeon from Columbia, S. C., to Fort Niagara, N. Y., to accompany the 42d U. S. Vol. Inf. to the Philippine Islands.

James B. Hallwood, acting asst.-surgeon, now at Fort Crook, Neb., to accompany the 39th U. S. Vol. Inf. to the Philippine Islands.

James W. Hart, acting asst.-surgeon, from duty at Fort Hunt, Va., to Fort Washington, Md.

Aubray F. Higgins, acting asst.-surgeon, from Fort Hamilton, N. Y., to Jefferson Barracks, Mo.

William Redin Kirk, acting asst.-surgeon, from the general hospital San Francisco, Cal., to duty with troops going to the Philippine Islands.

Simon P. Kramer, major and surgeon, Vols., from New York City to report to the Surgeon-General at Washington, D. C.

John C. Lewis, acting asst.-surgeon, from Georgetown, Ky., to Camp Meade, Pa., to accompany the 41st U. S. Vol. Inf. to the Philippine Islands.

Thomas Crooke McCleave, acting asst.-surgeon, from San Diego Barracks, Cal., to San Francisco, Cal., for duty with troops going to the Philippine Islands.

James C. Merrill, major and surgeon, U. S. A., from Washington, D. C., to Philadelphia, Pa., to attend the meeting of the Association of Medical Librarians, Oct. 5, 1899.

Arthur W. Morse, acting asst.-surgeon, from Joliet, Ill., to Fort Riley, Kan., to accompany the 40th U. S. Vol. Inf. to the Philippine Islands.

William F. de Niedeman, major and surgeon Vols., from duty in the Department of the Province of Havana and Pinar del Rio, Cuba, to the Department of California.

William O. Owen, captain and asst.-surgeon, U. S. A., from St. Louis, Mo., to duty as sanitary inspector, Department of California.

Elias H. Porter, acting asst.-surgeon, orders from Fort Hancock, N. J., to Fort Crook, Neb., to accompany the 39th U. S. Vol. Inf. were issued and subsequently revoked.

Alfred Richards, acting asst.-surgeon, from Fort Washington, Md., to duty at Fort Hunt, Va.

John A. Ronayne, acting asst.-surgeon, from temporary duty in the general hospital at San Francisco, Cal., to New York City, for annulment of contract.

A. H. Simonton, acting asst.-surgeon, to temporary duty at Fort Thomas, Ky.

W. R. Van Tuyl, acting asst.-surgeon from the general hospital at San Francisco, Cal., to Leavenworth, Kan., for annulment of contract.

August Von Clossman, acting asst.-surgeon, from Jefferson Barracks, Mo., to St. Louis, Mo., as attending surgeon and examiner of recruits in that city.

Isaac P. Ware, captain and asst.-surgeon, U. S. A., wholly retired from service to take effect from September 29, 1899.

Samuel M. Waterhouse, lieutenant and asst.-surgeon, U. S. A., member of a board in New York City, to examine officers for promotion.

Robert N. Winn, acting asst.-surgeon, from New York City to Framingham, Mass., to accompany the 46th U. S. Vol. Inf., to the Philippine Islands.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Oct. 13, 1899:

Medical Inspector J. A. Hawks, promoted to medical director.

Surgeon P. A. Lovering, ordered to the Mare Island Navy Yard.

Surgeon D. O. Lewis, detached from the Mare Island Navy Yard and ordered to the *Iowa*.

Surgeon M. H. Simons, detached from the *Iowa* and ordered to Washington, D. C., October 23, for examination for promotion, and then home to wait orders.

Surgeon J. W. Atlee, detached from the *Solace* and resignation accepted.

P. A. Surgeon C. P. Bagg, detached from the *Pensacola* and ordered to the *Solace*.

P. A. Surgeon J. E. Page, ordered to the *Pensacola*.

Asst.-Surgeon W. M. Wheeler, detached from the *Solace* and ordered home to wait orders.

Medical Inspector C. A. Siegfried, detached from the torpedo station, Newport, R. I., Oct. 17, and ordered to continue in charge of the naval hospital, Coasters Harbor Island, R. I.

Surgeon J. M. Steele, ordered to duty at the torpedo station, Newport, R. I., October 17.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the fourteen days ended Oct. 12, 1899.

Surgeon R. D. Murray, to proceed to Miami, Fla., for special temporary duty.

P. A. Surgeon C. H. Gardner, granted leave of absence for two days.

Asst. Surgeon G. M. Corput, to report to medical officer in command, Baltimore, Md., for duty and assignment to quarters.

Asst.-Surgeon Carroll Fox, relieved from duty at Baltimore, Md., and directed to report to medical officer in command of the Reedy Island Quarantine station for duty and assignment to quarters.

Acting Asst.-Surgeon R. S. Primrose, granted leave of absence for six days.

Hospital Steward Charles Miller, granted leave of absence for 21 days from October 8.

Surgeon R. D. Murray, to proceed to Key West, Fla., for special temporary duty. To assume command of the Service at Key West, Fla., in accordance with orders of May 15, 1899.

Surgeon P. M. Carrington, to proceed to New York City, as inspector of unserviceable property.

P. A. Surgeon T. B. Perry, to report to Chairman, Board of Examiners, New York City, for examination to determine fitness for promotion.

P. A. Surgeon R. M. Woodward, to report to Chairman Board of Examiners, New York City, for examination to determine fitness for promotion.

P. A. Surgeon G. T. Vaughan, to report to Chairman Board of Examiners, New York City, for examination to determine fitness for promotion.

P. A. Surgeon C. P. Wertenbaker, to proceed to Bristol, Tenn., for special temporary duty.

Asst.-Surgeon C. E. Decker, to proceed to San Diego, Cal., and assume command of the Service, relieving Asst.-Surgeon L. E. Cofer.

Asst.-Surgeon J. B. Greene, to report to Chairman, Board of Examiners, New York City, for examination to determine fitness for promotion.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Oct. 14, 1899:

SMALLPOX—UNITED STATES.

Arkansas: Jefferson County, October 4, 20 cases; Pulaski County, October 4, 6 cases.

Kansas: Butler County, October 2, 5 cases.

Massachusetts: Chelsea, September 30 to October 7, 1 case

Ohio: Cincinnati, September 30 to October 7, 2 cases; Cleveland, September 30 to October 7, 1 case; Dayton, September 30 to October 7, 2 cases.

Pennsylvania: Allegheny, September 30 to October 7, 3 cases.

Tennessee: Memphis, September 30 to October 7, 2 cases.

Virginia: Portsmouth, September 30 to October 7, 2 cases.

Washington: Seattle, September 22 to 30, 1 case,

SMALLPOX—FOREIGN.

Canary Islands: Teneriffe, September 16 to 23, 2 deaths.

Greece: Athens, September 16 to 23, 7 cases, 2 deaths.

India: Bombay, September 5 to 12, 10 cases; Madras, September 2 to 8, 1 death.

Italy: Naples, September 14 to 21, 1 death. Imported from British East Africa.

Mexico: Chihuahua, September 22 to 30, 7 deaths; Mexico, September 10 to 30, 21 cases, 11 deaths; Cuchio, September 29, 25 cases; Mulatto, September 29, 12 cases; Nueva Laredo, July 1 to August 24, 3 deaths; Ojenega, September 29, 50 cases; Pilares, September 29, 15 cases; Progresso, October 7, 30 cases; San Antonio, September 29, 20 cases; San Felipe, October 7, 100 cases; San Francisco, September 29, 5 cases; San Juan, September 29, 100 cases; Juarez, October 7, 40 cases; Vado de Piedras, September 29, 20 cases.

Russia: Moscow, September 8 to 16, 2 cases; Odessa, September 16 to 23, 4 cases; St. Petersburg, September 8 to 16, 1 case.

Straits Settlements: Singapore, August 19 to 26, 3 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Key West, October 6 to 10, 137 cases, 4 deaths.

Louisiana: New Orleans, October 5 to 12, 8 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Cuba: Matanzas, October 3, 1 case, soldier; Nuevitas, September 10 to 16, 1 case; Santiago, September 16 to 23, 4 cases.

Mexico: Vera Cruz, September 22 to 28, 9 cases, 4 deaths; Victoria, October 6, reported.

Salvador: Vicinity of City of Salvador, reported.

CHOLERA.

India: Calcutta, August 26 to September 2, 4 deaths; Karachi, September 2 to 9, 1 case, 1 death.

PLAGUE.

Egypt: Alexandria, September 17 to 24, 1 death; Lorenzo Marques, Magudo, September 22, reported.

India: Bombay, September 5 to 12, 87 deaths; Calcutta, August 25 to September 2, 54 deaths; Karachi, September 2 to 9, 3 cases, 3 deaths.

CHANGE OF ADDRESS.

Bushang, L. B., from Lyndon to Admire, Kan.
Blake, D. B., from Cuero, Texas to 2102 West End Ave, Nashville, Tenn.
Cannaday, C. G., from 112½ Jefferson St. to Cannaday Bldg, Roanoke, Virginia.
Cwil, J. L., from 318 S. 3d St. to 6823 Manchester Ave, St. Louis, Mo.
Corbin, D. R., from Idalia to Bernie, Mo.
Caldwell, J. J., from 1138 to 808 N. Fulton St., Baltimore, Md.
Caldwell, N. S., from Yokahoma, Japan to Care Hongkong and Shanghai Bank, Hongkong, China.
Crume, G. P., from New York City to Earl Park, Ind.
Cassidy, W. W., from Wabasha, Minn. to 740 Jackson Boul., Chicago.
Currie, A. N., from Currie, Minn. to Hatton, N. D.
Dowdall, W. T., from 2140 Wabash to 7100 So. Chicago Ave. Chicago.
Finney, J. M. T., from 923 N. Charles St. to 1300 Eutaw Pl., Baltimore, Md.
Fitz, G. G., from Emmetsburg to West Bend, Iowa.
Foss, John W., from Boston, Mass. to Misa, Arizona.
Grimstead, J. T., from 602 W. 4th St., St. Louis, Mo. to Wabash Hospt., Springfield, Ill.
Grier, M. J., from Waukegan, Ill. to 1531 Spruce St., Philadelphia, Pa.
Horton, G. M., from Box 355 to Bailey Bldg, Seattle, Wash.
Hopper, J. H., from Mackville to Kirkville, Ky.
Hirschman, L. J., from 85 Adelaide St. to Harper Hospt., Detroit, Mich.
Harper, M. L., from Milo, Iowa to Boulder, Col.
Keck, F. C., from Crocker Bldg to 508 California St., San Francisco, Cal.
Kirkbridge, M. F., from Spring Lake Beach, N. J. to 2212 Green St., Philadelphia, Pa.
Krebs, L. L., from DesMoines, Iowa to Springfield, Mo.
Kendall, O. J., from Witchita Falls, Texas to Evans Blk, Riverside Cal.
Lindquest, A. B., from 131 S. 39th St. to Omaha Medical College, Omaha, Neb.
Lanver, A. E., from Paton to Harcourt, Iowa.
Mahon, J. B., from Wilkes Barre to Main St., Pittston, Pa.
Murdock, O. N., from 23 So. Washington St. to 620½ Nicolette Ave, Minneapolis, Minn.
Martin, E. E., from Gambrie, Iowa to 248 S. Lincoln St., Chicago.
Nelson, H. S., from 239 1st Ave. So. to 54 3d St. So., Minneapolis, Minn.
Osborne, C. F., from Creamery, Iowa to 222 Winchester Ave, Chicago.
Osborn, J. W., from Dyersville, Iowa to 2016 Arch St., Philadelphia, Pa.
Peterson, H. B., from Weavers Corners to Kelly's Island, Ohio.
Perry, H. G., from Greenville to Greensboro, Ala.
Prentice, G. L., from Pleasantville, Iowa 528 Washington Boul., Chicago.
Parsons, S. T., from Breda, Iowa to 580 W. Madison St., Chicago.
Ramsey, A., from Chestnut Levee to Burkeville, Va.
Riche, H. G., from Marksville to Cheneyville, La.
Suggett, O. L., from 613 Pine St. to Jefferson Ave. and Olive St., St. Louis, Mo.
Scholtes, T. W., from Winona, Minn. to 740 Jackson Boul., Chicago.
Weld, W. H., from Fort Atkinson to 200 Farwell Ave, Milwaukee, Wis.
Wedemeyer, G. A., from Burton to Gay Hill, Texas.
Werner, C. A., from Marathon to Harcourt, Iowa.
Waiss, A. S., from 2722 Indiana to 2691 N. Hermitage St., Chicago.
Woolsey, M. H., from 1017 Sutler to 135 Geary St., San Francisco, Cal.
Wyman, Hugh S., from Juneau, Alaska to Olympia, Wash.

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Original Articles.

OSTEOTOMY*.

BY DeFOREST WILLARD, M.D.
Clinical Professor of Orthopedic Surgery, University of Pennsylvania; Surgeon to Presbyterian Hospital.
PHILADELPHIA.

This operation, though a simple one and productive of he most excellent results, is, I fear, too little appreiated by the general practitioner, and even by surgeons. 'here is no more satisfactory operation in surgery, nor ne that is applicable to such a variety of conditions. t is safe, speedy, easily performed, seldom followed by ny unpleasant consequences, and most effective in reief. Although it is one of the most common operations n my hands, I can safely say that I have not, for ten ears, had a single drop of pus following its performnce. To accomplish this desirable end, however, it is ecessary that the surgeon shall be absolutely cleanly, nd that he shall not introduce into the wound any elenents of suppuration.

The application of the operation is wide; in deformiies following fractures; in ankyloses of joints, from vhatever cause; in the distortions of bone produced by ickets, osteomalacia, etc., osteotomy has no substitute hat is at all to be compared in efficiency.

I have long since abandoned the method of wedgehaped osteotomy, since the injury to tissues is greatly ncreased by the extra manipulations, and suppuraion is much more common. In place of removing a vedge from the convexity of the deformed bone, it is etter to permit the blood-vessels to throw out sufficient allus at the convexity to fill in the opposite wedgehaped space produced by the straightening of the bone. The resultant union of the fragments is as strong as n the other method, and, as already said, I have never had a drop of pus since abandoning the cuneiform method; before that time, in spite of every precaution, a cerain proportion of cases would suppurate on account of he injury inflicted to the surrounding soft parts during he operation. As compared with osteoclasis, while, theoretically, an osteotomy produces a compound fracture, he practical outcome of the operation, if it has been aseptically performed, is that the surgeon has nothing out a simple fracture to treat. The osteoclast contuses and lacerates the soft tissues to a marked degree, and the raumatism inflicted is infinitely greater than the clean ncision of an osteotomy. If the operation has been properly performed, and the limb skillfully dressed, here will be no displacement of fragments. The wound, a simple clean incision, heals by primary union, and from the moment of closure the fracture is not a compound one. The Adams subcutaneous saw leaves bone sawdust in the tissues, rendering immediate healing more uncertain. It is, however, a valuable instrument, and occasionally I employ it, even though it is not so clean and simple. I have often been amused at the cicatrices sometimes several inches in length, following the work of surgeons, while all that is necessary is simply a plunge of the scalpel to the bone, after which the osteotome is carried down along its blade; in fact, if the osteotome is very sharp, even the scalpel is unnecessary. The use of an elastic bandage, or tourniquet, is very undesirable, as the small amount of outflowing blood is of advantage in preventing the entrance of germs during the operation. An osteotome should be exceedingly sharp; it is, as its name indicates, "a bone knife;" it should be like a knife, two even planes meeting at the edge, which should not have, as has a chisel, any semblance of a shoulder in these two surfaces. The osteotome must have the best of temper, but great care must be exercised by the surgeon that the edge be not broken off by any lateral movements, and that the instrument does not become too firmly fixed in the osseous structures at any time. A firm, solid sand-bag anvil is important, and the limb must be placed so as to rest easily upon it. The line of the incision must be planned so as, in the first place, to avoid any vessels at the point of entrance, and secondly, to avoid vessels and nerves on the opposite side of the bone, in case the blade should accidentally be driven too far through the bone. Before commencing the operation, the surgeon should carefully measure with his eye or finger, the depth of the bone in that particular case, as it is exceedingly unpleasant, as has occasionally happened, to find that one has driven the osteotome, not only through bone, but also through muscles and skin on the opposite side, and even into the sand-bag. As in many other matters, it is just as necessary to know when to stop, as when to advance. Should any accident occur, or vessels be wounded, either the wound should be enlarged, or a full incision should be made on the opposite side, and the vessels secured, or injured nerves sutured.

Multiple osteotomies are often necessary. I have performed as many as eight at one time, but it is very important that temporary stiff dressings shall be applied to prevent displacements of fragments and laceration of soft tissues during subsequent manipulations on the other limb, or other portions of the body. The surgeon must be careful that his hands are thoroughly cleansed before attacking fresh areas, since the secret of success lies in the scrupulous asepsis of the surgeon through every step of the operation until final closure is reached.

When hemorrhage has ceased, a single catgut stitch, deeply inserted, will close the wound, which stitch will require no attention until the cure is complete, six or eight weeks afterward. The dressings must be absolutely aseptic, as they are to remain a long time *in situ*. The primary dressings need seldom be removed until the cure is complete, even though there has been slight bleeding. There will be no decomposition beneath the plaster cast, and the only odor after the removal will be that arising from long retention upon the body.

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Many surgeons use for dressings, binder' board, wooden or tin splints, horizontal extensions, etc., but if one understands properly the application of plaster of Paris, there is nothing to be compared with it, in comfort to the patient, in absolute rest secured, and in quickness of union of bone, while the saving of labor to the surgeon, though of secondary consequence, is immense. A thin layer of cotton, and a circular flannel bandage, should be put on the limb. The joint above and below the fracture must always be fixed to prevent muscular action and undue motion. The region of the fracture should always be dressed first, while the less important parts of the limb are reserved until the final part of the dressing, as this plan of procedure permits the surgeon to accurately regulate the position of the limb until the regional plaster has hardened sufficiently to maintain the corrected position.

Subcutaneous osteotomy of the clavicle is rarely safe, on account of the close proximity of important structures; an open section is always advisable when required for mal-united fracture or other cause.

Dressing stool under pelvis. Plaster dressing applied to body and leg.

Subcutaneous osteotomy at the upper extremity of the humerus is not an advisable operation in old unreduced dislocations, ankyloses, etc., as an open operation or excision usually secures better results. For faulty positions following fracture, and for the deformities of rickets it is occasionally of service. Great care should be taken, not only to avoid the blood-vessels, but especially the large nerve-trunks of this region. On the radius and ulna the operation is a valuable one, either for mal-union of a fracture, or for the bowing occasioned by rickets or by congenital absence of either ulna or radius.

The Spine.—Osteotomy of the articulating processes and of the ribs, with forcible correction in the rotation of lateral curvature, may come to be recognized as judicious in extreme and inveterate cases, but the multiple distortions connected with these extreme cases make restoration and improvement by such operation very problematical.

The Pelvis.—Subcutaneous section of the rickety pelvis in dystocia has been largely and very properly replaced by symphysiotomy. The operation has also been practiced through the ilium, followed by forcible compression, to bring into closer apposition the congenital deficiency of pubic bones which sometimes accompanies the malformation of parts, as seen in exstrophy of the bladder, etc., but as such an operation would lessen the strength of the pelvis, and as the neighboring soft parts usually yield sufficient tissue for the closure of the exstrophy without such bony interference, the operation is seldom justifiable.

The Femur.—Osteotomy finds its largest application in the bones of the lower extremity, especially in the deformities about the hip and knee. In the distortions following tubercular arthritic osteitis, or rheumatic or other inflammatory conditions of the joints, there is a wide field for its judicious employment.

Frequently the femur becomes fastened at a right angle of flexion to the pelvis, and locomotion can be afterward secured only by enormous lordosis. (Fig. 1.) Great adduction is not uncommon in neglected cases, the lower extremity of the femur often lying far beyond the median line of the trunk. The correction of such a distortion, which interferes most seriously with th comfort and usefulness of the individual, is a procedur that should be urged on the patient. Section may b made either with the osteotome, or Adam's subcutaneou saw, the former being preferable, for reasons alread given. The division may be made through the neck o the femur in cases of ankylosis from rheumatic or othe affections which are not accompanied by any larg amount of bony deposit. In coxa vara also, it has bee recommended to make this division, but I have had n experience in the operation for this deformity, as it desirability seems to me very problematical.

In tubercular disease, a point below the great tro chanter should always be selected, provided forcibl straightening is deemed unwise. In the application o *brisement force,* care should be taken in the exercise o power, that in case of an unexpected fracture, its sit should be sufficiently near the upper extremity of th femur to secure proper correction. Ordinarily, in tu bercular ankylosis, osteotomy between the trochanters, o below the lesser trochanter, is the best operation, the os teotome being driven down preferably in front of th
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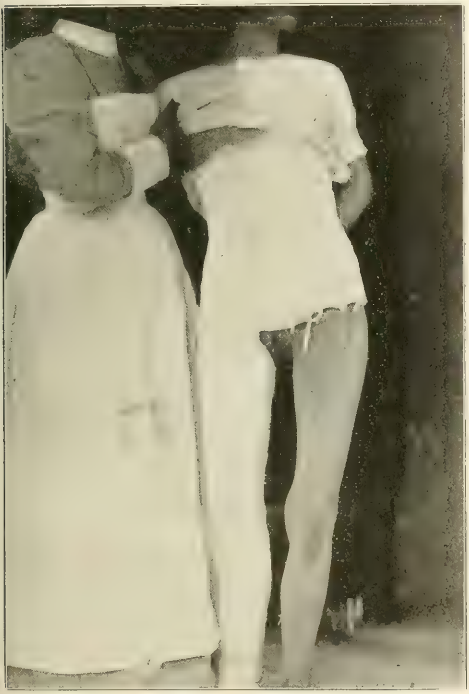
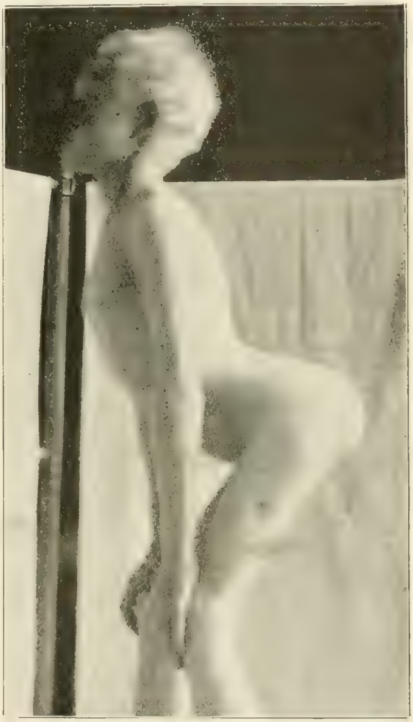
bone, although the surgeon should avoid cicatrices, and the line of old sinuses. At least one year should elapse after the closure of sinuses before attempting this method of straightening. It is unfortunate to strike into a depot of caseous material, as suppuration or infection are rendered more probable.

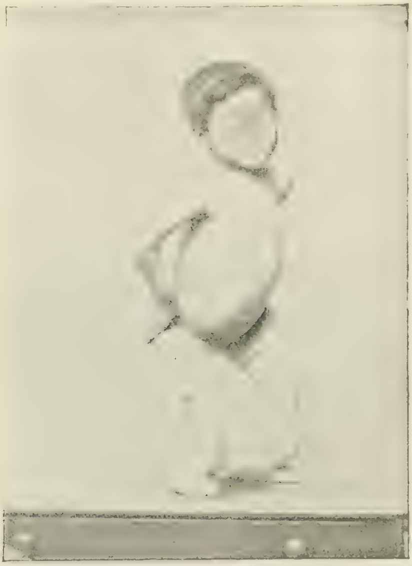
As the osteotome pierces the posterior wall of the femur, great care must be taken not to injure the sciatic nerve, but the dangers of laceration of the tissues are not so great as in osteotomy by the saw. After the section, if reposition is prevented by contracted tissues in front of the thigh, and if the lower fragment is drawn too much forward by such bands, or too far inward by the adductors, subcutaneous or open section of the tense tissues is advisable. The limb should at once be placed in its natural position, with slight abduction in cases of severe adduction. A rigid plaster-of-Paris dressing should then be applied from thorax to toe, the patient's pelvis being placed on a dressing stool, of pattern as per accompanying illustration (Fig. 2.); the supporting portion of metal should be so thin that the dressing can be applied directly over it; it can be easily withdrawn downward after hardening has occurred. The shoulders should be raised to equal height so as to bring the body in proper line for dorsal decubitus. Breakage of the cast at the groin is prevented by the free use of metal strips and of longitudinally reversed folds of the plaster bandage. If the pelvis is supported by hand during the application of the dressing, especially in a heavy adult, the continual motion at the hip will certainly impair the strength of the cast. Properly applied, such a dressing, although rigid, insures the patient absolute freedom from pain, and a sure position of union, consequently, it is of the utmost importance that the surgeon himself should, with the greatest care as to position, personally supervise its application. (Fig. 3.).


Plaster-of-Paris splint after osteotomy upper end femur.

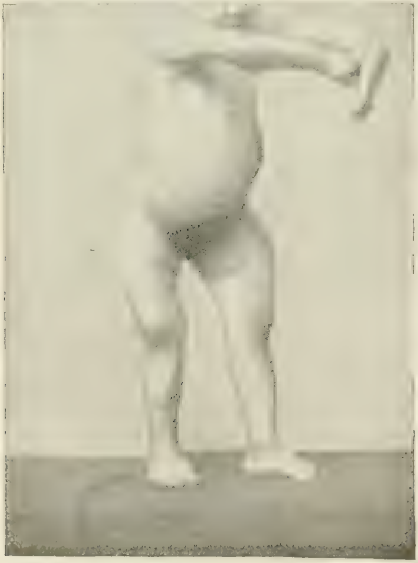

Hip ankylosis.

The amount of cotton beneath the flannel bandage should not be large, save over the sacrum, crest of the ilium, and other prominent points.

Osteotomy at the lower end of the femur for distortion, either in-knee, or out-knee, is at the present day practically always done at or above the condyles, so as not to interfere with the articulation. In the popliteal region, in fact at any point where the arteries lie in close proximity to the bone, great care must be taken that the sharp corner of the osteotome does not emerge from the bone during some too vigorous blow of the mallet, and wound the vessels so that a subsequent aneurysm be produced. When one drives a wide-based instrument through a large bone, without changing it for a thinner one, it requires experience to know when the opposite wall of compact tissue is reached. Through the condyles of the femur, it is necessary to make the section in several directions; if the instrument is withdrawn from the primary groove, the operator may be delayed in again finding the cut, and thus lose time; sections can usually be made in a radiating direction from a single point of entrance. Usually three-quarters of the bone structure should be divided, the remaining portion to be fractured by a short sharp exercise of force over the sand-bag fulcrum. It is remarkable how much force is required to complete the fracture in a bone that the surgeon desires to break after partial section, and yet how easily the bone may be broken in perhaps simply stepping off a curbstone. It is unpleasant to fail to complete the fracture, and to be obliged to re-introduce the osteotome.



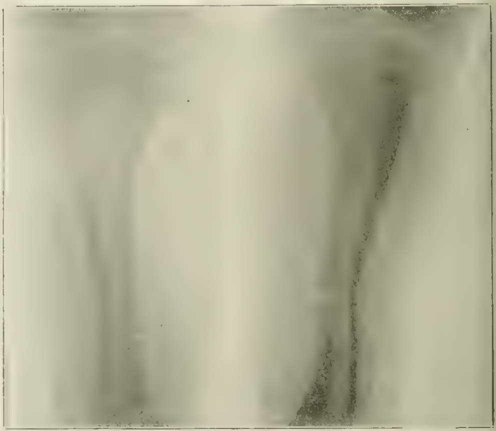
In applying the plaster dressing, a slight overcorrection is advisable, to prevent relapse. Great care is necessary on the part of the surgeon to secure exactly the proper positions. The dressing should extend close to the perineum, and in restless children, should include the pelvis. Such a cast will not require removal for six or eight weeks, and after it is taken off, rickety patients should wear a supporting apparatus for six months.



The Tibia and Fibula.—These two bones are the ones which most frequently necessitate the employment of osteotomy, either for lateral or anterior curves. Lateral curves, bowed legs, in young children can easily be cured by apparatus; if this fails, an operation will be necessary. Straightening can be accomplished in young children by forcible bending (Fig. 4.) or green-stick fracture over a solid wooden block, or by osteoclasis or osteotomy. In sections just below the tubercle of the tibia, care must be taken to avoid the anterior tibial artery at its perforation of the interosseous membrane.

In lateral curvatures of the leg, it is never necessary to remove a wedge from the bone,. and even in extreme anterior curvatures (Fig. 5.) my present practice is to avoid the cuneiform operation for the reasons already given; nature never having yet failed to give me a strong solid bony filling in of the "V" shaped gap at the rear of the bone produced by the straightening.

If the tendo Achillis acts as a tense bowstring to induce displacement, it should be tenotomized. Slight overcorrection is advisable, and a plaster-of-Paris bandage fixing the knee and ankle should be the dressing.



Manual forcible straightening over block, for bowed legs. Skiagraph taken through plaster cast.

In the deformity following Pott's fracture of the fibula, with eversion of the foot, osteotomy of the fibula with forcible straightening, will sometimes accomplish all that is required, but additional division of the tibia is sometimes necessary.

In deformities of talipes varus, and of valgus, section of the fibula occasionally permits the bringing of the foot squarely upon its sole.

Mal-united fractures of the tibia and fibula are often advantageously benefited by section.

Osteotomy of the first metatarsal is simpler than excision and less mutilatory than amputation, in hallux valgus or distortion at the ball of the great toe.

CONCLUSIONS.

1. Osteotomy is one of the most simple, safe, and satisfactory of surgical procedures.

2. Its employment is indicated in many of the ankyloses of joints following rheumatic, inflammatory, or tubercular conditions, when forcible straightening is impossible. It is also of great service in the deformities following mal-union of fracture, and in the bending of bones resulting from rickets, congenital deficiencies, etc.

3. If aseptically performed, the injury to tissues is less than in osteoclasis, and the resultant fracture be-

nes from the moment of closure of the wound, only a nple one.

4. Wedge-shaped osteotomy is seldom necessary, even exaggerated deformities, as a simple section is all it is necessary, the gap resulting from straightening ng readily filled in with callus.

5. Plaster-of-Paris makes the best subsequent fixation int.

DETAIL IN CLEFT PALATE OPERATIONS*.

BY STEWART L. McCURDY, M.D.

PITTSBURG, PA.

The object of this paper is to describe some new in-uments and to call attention to some already in use, well as to describe the accepted methods of operation congenital defects of the hard and soft palate.

In all operations on the mouth or face the patient ould be placed in the Murphy position, the operator ting above the head. The Murphy position is best ured by the use of the head-rest of an ordinary oper-ng-table, or by an extra head-rest with a body portion ssed under the patient—the head-piece being placed an angle of 45 degrees to the plane of the body. (See g. 10.)

Fillebrown's method of producing anesthesia is of vantage in all operations on the face and mouth. It practically the same method as that introduced by Dr. ayes, a dentist of Pittsburg, about fifteen years ago.

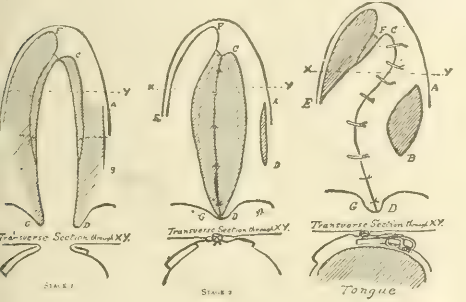

F
C
A
Y
g
G
D
Tra'nsverse Section through XY.
STAGE 1
F
C
X
Y
E
A
D
G
D
Transverse Section through XY.
STAGE 2
F C
X
Y
E
A
B
G
D
Transverse Section through XY.
Tongue

Fig. 1. Fig. 2. Fig. 3.

Davies-Colley operation.

consists in delivering the anesthetic to the point rough a small tube near the mouth, or as Fillebrown ggests, resting on the upper teeth. The anesthetic forced through the tube by a foot bellows. With the tient in position, the Fillebrown mouth-piece can not used as he suggests. When possible, the Davies Colley eration is to be preferred, since it furnishes normal ucous surface for the floor of the nasal cavity, and r the roof of the mouth as well, thus avoiding the posure of raw surface. He describes the steps of the eration as follows:

The operation might be divided into three stages: age 1. Fig. 1. (a). An incision A B is made down to e hard palate in front, and behind through the soft late, with its center just internal to the last molar. ith a raspatory, the muco-periosteum is separated om A B inward. (b). An incision C D is made about quarter of an inch from the cleft in front. It runs rallel to the cleft backward, and is continued to the p of the uvula, splitting the soft palate to the depth about three-eighths of an inch in front, and a less amount behind. The muco-periosteum between C D and the cleft of the hard plate is separated inward with the raspatory as far as the edge of the bone. (c). A triangular flap E F G is raised from the other side of the plate, in such a way that the anterior extremity is free, and the inner margin runs parallel to the edge of the cleft at a distance of one-sixth of an inch. In the soft plate the incision is continued backward so as to split that structure in the same way as on the other side. The muco-periosteum of the hard palate internal to F G is separated inward and left attached to the edge of the bone.

Stage 2. Fig. 2. The mesial flaps, namely, those internal to C D and F G, are united by fine silk or catgut sutures; and continuously with this union the upper planes of the split soft palate are brought together. A bridge is thus formed across the whole cleft with a mucous surface directed upward, and a raw surface downward.

Stage 3. Fig. 3. The edge F G of the triangular flap in front, and of the lower plane of the soft palate behind, is united by silver wires and one or two silk sutures, to the edge C D of the hard and soft palate of the other side. A second bridge is thus formed across the whole cleft, with a raw surface looking upward and a mucous surface downward. The after-treatment was that of the ordinary operation, except that as there was no tension in the hard palate, and very little in the soft, the sutures might be left in from three to six weeks. The advantages claimed for this operation were: 1, no tissue has to be pared away; 2, a much larger extent of raw surface is brought into closer contact than in the ordinary operation; 3, the tension is small; 4, the upward pressure of the tongue is beneficial, as it presses the lower against the upper bridge; 5, some advantage is gained by using the muco-periosteum of one side in front of the cleft to help in bridging the gap of the hard palate. He says, "I commence my incision at a, a, Fig. 4, and with a hoe-shaped periosteum knife dissected off the tissue from the hard palate to the dotted lines b, b, Fig. 4. After paring the edges of the flaps I inserted silver sutures running above the flaps, and passed them through the palate and through pure silver disks c, c, c, Fig. 5, twisting the ends and making tension which fully approximated the edges. To fully relieve the strain upon the soft palate, and also to allow contraction of the arch, I made the incision e, Fig. 5, from the tuberosity to opposite the under molar. I cut through the mucous membrane with a scalpel and then separated the deeper tissues with a smooth dissector, in order to avoid injuring important vessels. The edges of the cleft now held in close approximation were brought more accurately together by fine silk sutures d, as shown in Fig. 5. I thus avoided the lateral incision in the hard palate, the separating of the tensor muscles, the cutting

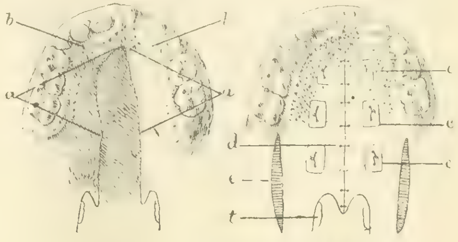


Fig. 4. Fig. 5.

Fillebrown.

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*Presented to the Section on Surgery and Anatomy, at the ftieth Annual Meeting of the American Medical Association, held Columbus, Ohio, June 6-9, 1899.

of the pillars of the fauces, and approximated the tonsils so as to lessen the arch and allow the soft palate to retract to a considerable extent. This increases the length of the flap. If the flap is short near the fauces an incision is made through the mucous membrane near the anterior pillars. Deep wire sutures and head plates are used by the operator to relieve tension on the flaps as well as marginal sutures."

Dr. Truman W. Brophy, Chicago, recommends that the maxillary bones be approximated by twisting silver wire which has been passed through aveolar ridges.

In every operation on congential deformities the preservation of material must be the first consideration. The least amount of tissue must not be severed. In the Davies Colley operation this is carried out throughout.

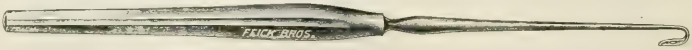


Fig. 6. Original.

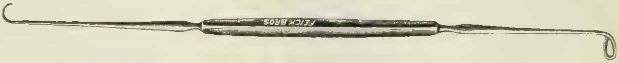


Fig. 7. Original.

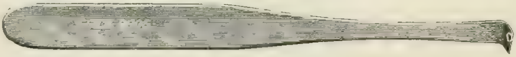
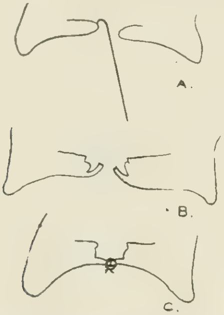


Fig. 8. Fillebrown.

In Fillebrown's operation, a skilful step toward economy of tissue is observed. The instrument shown in Fig 8, is a steel hoe with cutting edge on the tip and both sides. It was devised for the purpose of cutting through the soft tissues well up around the margin of the cleft, indeed, far enough to so do that when the flaps are hoed from the bone they reach across the chasm. With the cutting sides it is drawn forward to the anterior angle and backward along the margin of the soft palate, as well as hard—the uvula being very readily split to its tip. With care, a considerable cleft may be closed in this manner, without resorting to bone operation, as Brophy suggests.



Fillebrown operation.

To use a needle without an ordinary needle-holder, requires a very small needle and skilful manipulation, and much time is consumed. The cervix needles, which have the eye near the point, and are bent with a curve at right angles to the staff, answer quite well through the uvula, but are most difficult to handle between the bony cleft. The usual staphylorrhaphy needle is bent with a slight curve at right-angles to the staff, with a very slight curve of the point back toward the handle.

To overcome this difficulty the needle herewith illustrated was devised. (Fig. 6.) It has a curve which brings the point back toward the handle, the curve being just great enough to carry the puncture back sufficiently far from the edge of the flap. The instrument here shown (Fig. 7) is necessary to complete the introduction of the suture skilfully. It has a ring on one end, bent at right-angles to the staff, and with an opening large enough to admit the threaded needle. On the other end is a hook. The needle, after being loaded with the desired suture material, is passed through back of the flap into the nasal cavity. It is then pushed through the flap from the nasal into the oral cavity. The ring end of the instrument containing the hook and ring above described is pressed against the flap to support it and prevent laceration. After the needle and suture passes through the flap, the hook is made to engage the suture on the side of the needle from the staff (Fig. 9, A), and with traction the free end is drawn through into the oral cavity as the needle is pushed back into the nasal cavity (B). The needle, with the thread still in position, is turned around to the opposite side, and passed through the flap as above described (C). As the thread is hooked up on the inside of the needle, the salient end on the same side is let go, and the one on the opposite side held—otherwise the needle would be unthreaded. The hook is again passed around the suture on the outside of the needle as before (D), and as it is drawn through into the oral cavity, the needle is pushed back into the nasal cavity and drawn out between the flaps unthreaded (E). This method permits the introduction of sutures at the extreme anterior angle. It is done quickly and no undue violence is done to the flaps. An important detail is that the hook must be passed around the suture on the side of the needle next the staff, on both sides, or when it is withdrawn, instead of it unthreading itself, it remains threaded and the two ends are through the flaps on the two sides of the cleft (F). The thread may be drawn from the inside of the needle, on both sides, and the steps are just the same.

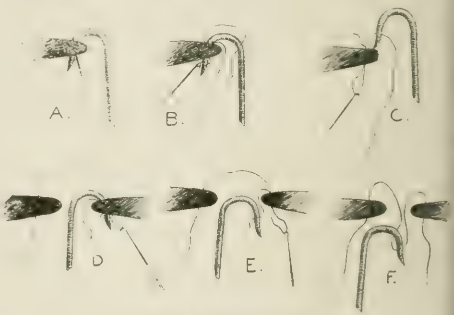


Fig. 9.—Original. Method of entering suture.

A self-retaining mouth gag adds greatly to the convenience ,and greatly assists in expediting the operation. For this purpose, the instrument herewith shown was de sed (Fig. 10). It is made as an ordinary gag, except at it has a plate extending from the end of the upper m of the gag, about the side of the head, above and ound the ear. The plate which passes about the side the head is made of malleable metal, so that it can be curately adjusted to the side of the head without tiltg the mouth gag from the teeth. This is held in position by a head band, which may be an ordinary steriled gauze bandage. With this simple device the assistnt is free to render double service. A self-retaining ngue depressor is attached to the gag, as shown. The

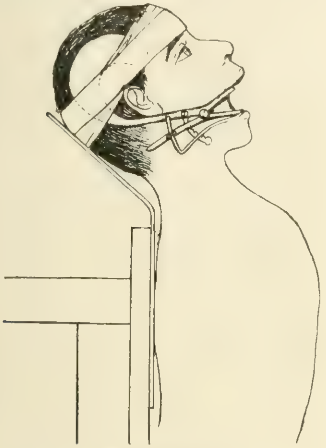


Fig. 10.—Original.

ngue can be thrown up to any desired position by oving the lever, which is pivoted on the lower arm of e gag. The outer lever of the tongue plate is bent ong the lower bar of the gag to near the end, where it turned up at right-angles, this part passing through opening on the lower arm of the gag. It is secured a ratchet or thumb-screw, as may be desired. As the g is closed, the pressure made by the tongue plate is lieved, and as it is opened the tongue is thrown up out the field of operation.

DISCUSSION.

Dr. H. M. Vance, Louisville, Ky. I simply rise to indorse e use of this needle. I first knew of it as having been devised M. F. Coomes of Kentucky, and used since 1882. It is the st staphylorrhaphy needle I know. As the Doctor described, e difficulty is in unthreading it. After introducing the needle th the suture through the flap, if you unthread it wrong, u have to go over your work. The question in my mind about aphylorrhaphy is whether we should do anything with hardlate clefts; whether the dentist can not do better work where e cleft goes through the hard palate.

Dr. A. J. Ochsner, Chicago—The last speaker has brought t difficulties one encounters in operating on cleft hard palates. would simply make a short statement about this, because I ve operated on a large number—over thirty—of these hardlate cases, and with results that can not be questioned.

The operation performed is the one described and recomended by Julius Wolff of Berlin; it consists in chiseling off e hard palate along the alveolar process on each side and leavg these flaps raw for a week or so, for the purpose of establhing good circulation. The secret of success consists in makg the flaps so loose that it requires no tension to hold them place. The depth to which you can carry your incision can measured by passing the little finger beneath the palate. e point Dr. Porter of Harvard Medical College has suggested the treatment of cleft palate is of great importance, and ould be employed in all patients who are old enough. It consts in the use of a rubber plate made by a dentist and fitted r enough back that the tongue can not press against the new-made palate. It is usually the pressure of the tongue which tears out the stitches, if this occurs. The position used by the author was first described by Rose, about 1850, and should not have been mentioned as the "Murphy position."

There is one important observation about teaching the child to talk normally after this operation, which I made several years ago. A child 5 years of age, who talked only English before the operation, removed to Milwaukee directly after, where the German language was spoken, so that the child learned to speak German, and spoke German only for two years. She learned to speak it without any nasal twang, in fact, her speech was perfectly normal. She then moved to California and began to speak English again, and the English she learned after that was perfectly clear, while the English words she had learned before the operation continued to have the nasal twang. Therefore, I have since frequently made use of this plan: If there is a possibility of the child being taught a different language from the one learned before the operation, this is done; otherwise, the child receives instructions daily from some particular member of the family in the use of the various organs of speech. In this manner most excellent functional results have been obtained.

Dr. J. B. Bullitt, Louisville, Ky.—The only one thing I have to say is concerning combining the mouth-gag with the tongue-depressor. I believe that, in practical work, it will be found by most gentlemen that it is not desirable to have this combination used in this way. The fact of the matter is, there is very little necessity for depressing the tongue, as the operation is on the roof of the mouth rather than on the floor, and the tongue comes very little in the way. The depression of the tongue caused by the tongue-depressor embarrasses the respiration of the child and tends to permit more fluid getting into the larynx than there is necessity for. By simply passing a strong ligature through the tongue, the tongue can be absolutely controlled, and the free use of sponges keeps the blood from reaching a high enough level to enable it to enter the glottis.

Dr. B. M. Ricketts, Cincinnati, Ohio—There is one thing here that has not been spoken of, and that is with reference to advancing the jaws. There was a paper written eight or nine years ago by Dr. Wyeth, in which he spoke of advancing the jaws. During November, 1885, I performed that operation at Portsmouth, Ohio, but had not reported it. That was in a case of complete cleft, in a girl 8 or 9 years of age. Of course, the operation spoken of here by Dr. Ochsner has its advantages, and so has the operation of advancing the jaws; but I think the dentist is better prepared and can do better work than any surgeon, where the clefts are of this nature.

Dr. S. L. McCurdy, Pittsburg, Pa.—I just want to reply to Dr. Bullitt. He says that the tongue drops out of the way. This is quite true if you have the head erect, but in the position described, which, according to my notion, is the most perfect position, and blood does not interfere with the operation or pass into the stomach so as to interfere with respiration, the tongue is above and not below.

INFECTIVE SINUS THROMBOSIS.

DETERMINING FACTORS IN ITS SYMPTOMATOLOGY AND DIAGNOSIS.*

BY FRED. WHITING, M.D.

NEW YORK CITY.

In a casual survey of the contents of medical periodicals in general, and journals of otology in particular, the attention of the reader will be speedily attracted to the prominence alloted the literature of intracranial infective diseases, and careful perusal of such contributions will reveal a gratifying change in the subject-matter as now presented, in striking contrast with similar descriptions of a by no means remote otologic period. The time was, and that within the memory of the youngest of us, when the account was restricted to a brief and deplorably incomplete clinical history, with a doleful and verbose report of autopsy appended, the whole concluding with a mournful dissertation on the utter inadequacy of surgical methods for successful resistance against the inroads of a malady which, with the seeming co-operation of a malignant fate, defied and mocked at every resource of medical science.

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*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

With the advent of antisepsis, that uncompromising foe to all forms of infection, the theme of these discourses, change, and instead of an unbroken array of obituary notices, distressingly dismal to contemplate, the recital now abounds with details of triumphs of technic and with brilliant operative achievements; the melancholy strain has disappeared and where before every prospect was gloomy, continued success has contributed to buoyant and henceforth unfaltering hope. Other agencies there are which have likewise, but in lesser degree, contributed to the beneficial result, viz., improved surgical methods and a clearer comprehension of the symptomatology. Especially is this true of sinus thrombosis, the more constant and striking phenomena of which this paper aims to present.

The honor of first suggesting the feasibility of opening and cleansing the lateral sinus from disintegrated purulent thrombi, and of ligating the internal jugular as a prophylactic measure against the dissemination of infective particles, belongs to Zaufal,[1] as does also the distinction of being the first operator to undertake the removal of such an accumulation, which he four years later did (1884), in a case in which the sinus wall had become ulcerated, and removing the sigmoid groove he came on the open sinus, out of which he expelled purulent masses by irrigation with an antiseptic solution. He did not re-establish the circulation from either direction nor did he tie the jugular, but he introduced a drainage-tube into the lumen of the sinus. The patient died of metastatic involvement of the lungs. Such were the initial steps from which the operation of sinus thrombosis, as now performed, originated, and on the measures advocated by Zaufal improvements have simply been as to detail, the essentials remaining unaltered. Every phase of this disease is replete with interest, but limited space admits of the consideration of but one chapter —symptomatology.

As regards the technic of operation, the same essential features which characterize all successful cranial surgery apply with equal pertinence to this particular procedure, and while familiarity with the distinctive steps to be employed is imperative, in the interest of a favorable termination, there are two considerations of such paramount importance as to justify a momentary digression for purposes of emphasis. The agencies thus referred to are: 1, control of hemorrhage and proportional reduction of shock; and, 2, rapdity in the performance of the needful operative measures.

In the majority of instances cases of sinus thrombosis come to operation during the second stage of the disease; the patient is, therefore, already in a septic condition of greater or less intensity, with a proportional reduction of physical powers and impaired vital energies; under such unfavorable conditions the opening and cleansing of a large blood-channel like the sigmoid sinus, always an operation of severity, assumes an aspect of greater gravity, and inasmuch as shock under these conditions is largely a matter of hemorrhage, no precaution can be too elaborate to anticipate it, and no attention to detail, however insignificant, can be too studied to ensure a speedy control of this, but where, as sometimes unavoidably happens, the loss of blood is great, owing to the difficulty of removing firmly attached infective particles from the sinus wall, no delay should be tolerated in the performance of intravenous infusion of normal saline solution at a high temperature and in sufficient amount; we possess in this simple agent a most powerful ally, both as a prophylactic against shock, where the vital forces are already materially reduced, as the result of protracted struggle against sepsis, and as a cardiac stimulant of the first magnitude. Where toward the end o operation the heart action becomes labored and failure imminent, the intravenous infusion speedily alleviates the condition, the flagging energies of the heart ar augmented and with the assistance of hypodermic stimulation thenceforth sustained. Time, always an essentia factor in operations of gravity, is nowhere entitled t more respect in its flight than during the sinus operation, and while all surgeons should deprecate the practice of operating against time merely as a pretext fo the display of physical force and manual dexterity, whic affectation is infallibly exhibited at the expense of caution and thoroughness in this grave situation, the operator should sacrifice every detail save cleanliness an thoroughness to the demands of time, a few moment more or less being important elements in a favorable o unfavorable termination.

It is, however, with the symptomatology and diagnosi of sinus thrombosis that this paper chiefly concern itself, and that these elements may be considered in th order of their logical sequence and a proper estimatio of value attributed to them according as they are constant, frequent or uncommon, we will enumerate the in the relative order of frequency which characterize their appearance in the different stages of this malady

Symptomatology is par excellence the weak chapte in intracranial infective disease; this is partly due to th faculty of individual observers for attributing a differen significance to certain variable groups of symptoms, an to an honest inability to agree on the interpretation o the value of some constant phenomena. The former manifestations may in a given case be insignificant, and th absence or suppression of this may in the next instanc prove momentous, wherein the personal equation is entitled to distinguished consideration.

Accuracy of observation and precision of record ar slowly but surely eliminating the discrepancies; with th increasing number of zealous observers at home, emulou of rivaling the enviable successes made abroad, an immense impetus is afforded scientific researches, and i bound to be fruitful, and will infallibly result in the accumulation of much useful as well as superfluous material which we trust the touch of some master han will in the near future convert from a disorderly arra of facts into a concrete skeleton on which time and experience will construct a nearly perfect symptomatic organization.

The course of sigmoid sinus thrombosis may be conveniently designated for the purposes of clinical classification as compromising three stages, characterized b local and systemic manifestations; the anatomic appearances of the sinus wall, the pathologic changes in th clot, and the signs of circulatory obstruction may b denominated as *local factors;* while rapid and excessiv fluctuations of temperature, frequently repeated rigors peripheral or central metastases, etc., embrace the essential *systemic symptoms.*

The local and systemic conditions enumerated below constitute the various stages:

First Stage—The presence of a thrombus, parietal o complete—chiefly composed of fibrin, red blood-cells exfoliated endothelium, leucocytes, and homogeneou protoplasmic cells—not having undergone disintegratio and accompanied by slight or moderate pyrexia, rigor being usually insignificant or absent.

Second Stage—The presence of thrombus, parietal o complete, which has undergone disintegration with re ulting systemic absorption, characterized by frequent igors and pronounced septicopyemic fluctuations of emperature.

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[1] Prog. Mediz. Woch., 1880.

Third Stage—The presence of a thrombus, parietal or omplete, which has undergone disintegration with sysemic absorbtion, accompanied by rigors, rapid and reat fluctuations of temperature, and central or perpheral embolic mestastases, terminating usually in sepic pneumonia, enteritis, or meningitis.

First Stage—The diagnosis of sinus thrombosis in the rst stage is seldom made preliminary to the operation or mastoiditis, owing to the intermediate character of he symptoms manifested up to that point in the progess of the affection; its detection follows, as a rule, the ecognition by the operator of extension of the carious isease through the inner table along the course of the igmoid groove, or at some point in the immediate vicinty, although there may be, as yet, no perceptible soluion in the integrity of the wall, or, on the other hand, here may already be a well-defined opening into the osterior cranial fossa, through which granulations from he eroded dura protrude into the pneumatic spaces of he mastoid; the removal of such granulations with adoining carious structures uncovers the parietal wall of he sigmoid sinus, and reveals the often entirely unsusected existence of a thrombus, the patient having exibited no symptoms in any wise significant of sinus mplication. It thus follows that the diagnosis of sinus hrombosis, in the first stage, is, with rare exceptions, onsequent on operation for mastoiditis.

In this stage recovery is still possible, although improbable, without operation on the sinus, the infective process occasionally resulting in a constructive inflammation terminating in cicatrical obliteration of the inus lumen, a conclusion fervently to be desired but ery seldom realized. The anticipation of such a favorble outcome is only to be entertained under most exeptional circumstances, namely, when the virulence of he infection is so far attempted as to have nearly expended its energies during the invasion of the vessel-walls and in the production of the resulting clot, and when the residual activity of the pathogenic organisms present in the thrombus is speedily destroyed by the germicidal action of the phagocytes and leucocytes, thus preventing the otherwise certain purulent liquefaction f the thrombus.

The only safeguard against encountering the increased gravity of the second stage is to operate immediately on he recognition of the first stage, and the prognosis under uch conditions in skilful hands, and in the absence of ny complicating chronic disease of the patient, is exeedingly favorable, while the dangers attendant on inus thrombosis in the second stage are multiplied both s regards the certainty of general systemic infection nd the operative risks as well.

The transitional period between these two stages is usually brief, and its completion is commonly heralded by a sharp rigor.

Second Stage—The presence of a thrombus, parietal or complete, which has undergone disintegration with reulting systemic absorption characterized by *frequent igors and pronounced septicopyemic fluctuations of emperature*.

The diagnosis of sinus thrombosis is usually dependent on the appearance of symptoms which are not clearly manifested until the second stage of the disease is encountered, when, if the course pursued by the affection s at all typical, there musters in imposing array a sequence of symptoms which are quite irreconcilable, when associated with the suppurative inflammation of the ear, with any ailment other than infective involvement of the sinus. For this reason it happens that the diagnosis is made and surgical aid invoked in the majority of instances, if the medical attendant be alert, in this second stage; the earlier the recognition, the more favorable is the prognosis. But, in the event of the physician in charge misinterpreting these signs, or, as sometimes happens, the patient, although wisely advised, declining to accede to operation, notwithstanding the urgency of the demand for such interference, the characteristic manifestations of the third stage, with almost certain fatality, may confront the operator and confound his skill before the patient or his lay advisers can be forced to comprehend the exigencies of the case.

The general or systemic symptoms of sinus thrombosis in the second stage are essentially those of septicopyemia, and the manifestations are the results of the dissemination through the blood and lymph channels of pathogenic micro-organisms liberated for distribution by disintegration of the thrombus.

With the beginning of the second stage a train of symptoms of increasing gravity manifest themselves in rapid succession. The features of the patient assume a distressed and anxious look with an ashen pallor, as if apprehensive of impending evil. The countenance is frequently suffused with copious, colliquative perspiration, the exhaustive sweating being a significant accompaniment of this stage; there is loss of appetite and constipation, respiration becomes shallow and increased in frequency, the fluctuations in temperature are rapid and excessive, associated with repeated and severe rigors.

Unfortunately, the symptoms which we encounter in a series of cases of sinus thrombosis exhibit an exasperating disregard for all rules of uniformity, and the experience of that practitioner must indeed be comprehensive who does not find his diagnostic skill at times confounded and his wisdom set at naught by the vagaries of the perplexing disease; certain manifestations there are, however, which present themselves with sufficient regularity to be denominated, when taken collectively, "determining factors." These, in their relative order of frequency and importance, we shall emphasize or but briefly notice, considering first the systemic signs since in them are the earliest septic indications manifest.

First in point of importance is the appearance of rigors, which constitute a prominent feature of the second stage of sinus thrombosis; they occur early, are frequently repeated, and as the toxemia increases may even become daily manifestations, accompanied by profuse perspiration. While it is true that chills are the most constant symptom of the onset of infective phlebitis, it is also true that they may be entirely wanting, and 18 such cases are recorded; also 42 in which but a single chill was experienced. Repeated chills may, however, be anticipated, in four-fifths of the cases, and further investigation shows that the mestastatic processes in those instances in which the rigor was not repeated were numerically small, with feeble septic powers. On the other hand, when the chills were frequent and prolonged the subsequent sweating was pronounced and debilitating, and the associated septic process proportionately virulent. The persistent diaphoresis is oftentimes one of the most distressing experiences with which the sufferer has to contend; in certain instances where the infection is severe, sweating continues almost uninterruptedly, during the second stage, even in the presence of temperature sufficiently high to ensure under ordinary conditions a hot and dry skin; this increasing drain rapidly weakens the individual and hastens the infallible prostration which must ensue unless the manifestation speedily abates. Allen has reported a case in which, with repeated chills, there was no sweating until during the few hours immediately preceding death. Such exceptions to the usual rule in the sequence of symptoms serve chiefly to emphasize their fallibility for purposes of diagnosis. Equally significant inferentially are the fluctuations of temperature. The marked pyrexia is subject to frequent remissions, and the amplitude of the exacerbation is at times very great, although the febrile period may be exceedingly brief, two hours sufficing in certain instances for a variation of 6 F. This very high temperature is significant of the degree of toxemia present in the case, and is a valuable guide to, or one might say warning of, the septic complications to be anticipated. With such fever there could be prophesied, with almost absolute certainty of fulfilment, multiple metastases and a succession of unfavorable developments. Of 95 cases of metastatic sinus thrombosis recorded by Hessler, but 12 exhibited temperatures of 106 F., and of 26 cases which were free from metastases, not one approached this degree.

The pulse and respiration show at first moderate acceleration, becoming exaggerated with the passage of time and increasing toxemia until in fatal cases of pyemic thrombosis the pulse-rate mounts to 180 or becomes so rapid and feeble as to defy computation; the breathing is similarly embarrassed and respirations occur as frequently as 50 per minute. Just the reverse of this occurred in a recent case of mine where there was pronounced alteration in the respiratory rhythm corresponding to no known variety and exhibiting a peculiar spasmodic hitch or jerk on inspiration, which was free from pain; the frequency of respiration was also diminished; the symptoms were apparently occasioned by pressure on the pons of the two greatly distended occipital sinuses.

Vertigo and vomiting are present in a moderate proportion of cases which are uncomplicated, but are much more constant when associated with meningitis, occurring, according to Forselle, in 30 per cent. of such cases; as symptoms of sinus thrombosis they are by no means distinguishing characteristics and the importance attributed to them should not be overestimated. They are present at times only on assuming erect posture, at other times asserting themselves even during recumbency. As an accompaniment of acute infective conditions they appear suddenly, and diminish gradually with the favorable progress of the disease, while their later recurrence is to be regarded as an ominous manifestation.

Consciousness—There is no symptom of sinus thrombosis more subject to variation than consciousness, which in very many cases, particularly with meningitis, remains unimpaired up to the moment of death. Again, there may be speedy loss of it, associated with wild delirium, or the patient may lapse into a somnolent condition, capable of being roused and interrogated with the result of eliciting monosyllabic replies; this state usually precedes coma. Loss of consciousness has been observed in 30 per cent. of uncomplicated cases, and in 50 per cent. of cases complicated with meningitis or brain abscess. In twenty-three cases recorded by Hessler, in which the sinus phlebitis was complicated with meningitis and brain abscess, there was not a single instance of preservation of consciousness throughout the entire course of the attack.

A mild form of delirium does not necessarily imply greatly increased gravity in the case, and may be due to a minute non-infective cerebral embolus, but if prolonged with occasional periods of violence the prognosis is distinctly bad, for coma supervenes, and speedy dissolution ensues. Symptoms analogous to typhoid may appear in this stage if abdominal manifestations become prominent, and are often responsible for fatal errors of diagnosis; this is a melancholy mistake, a frequent repetition of which reiterated warnings in the literature of this subject have, as yet, failed to prevent.

Septic pneumonia and enteritis with albuminuria and affections of the pericardium and pleura, while occasionally encountered in this stage of the disease, are more often absent, and when they appear are usually to be regarded as indications of a rapidly approaching and unfavorable termination.

Simultaneous with these manifestations appear what may be denominated local signs of circulatory embarrassment or obstruction which, with further progress of the affection, become oftentimes very pronounced.

The symptoms originate in engorgement of the veins tributary to the sinuses of the dura mater, or through extension of infective inflammation in neighboring tissues, resulting in phlebitis, or by reason of pressure from the sinus walls distended with clot, or as a result of parietal accumulations pressing on contiguous nerves. Among the earliest and most constant of these may be mentioned hemicrania, occasionally mild in character, and again of unendurable severity, usually radiating from the ear over the corresponding side of the head; this sign is in no sense a distinctive factor, but it is mentioned first as being the only symptom invariably present. Tenderness in the upper portion of the posterior cervical triangle has been a prominent and easily elicited symptom in every case which has thus far come under my observation, and appears a most valuable aid to diagnose. It is dependent on the phlebitis of the deep veins of the neck. The anterior and posterior condyles participating with considerable frequency in inflammatory extension from the sinus, edema of the locality appears in conjunction with tenderness, but as a much less constant manifestation; however, when plainly marked, its significance is unequivocal of obstruction in a great blood-channel, and it usually implies that the thrombus has already extended into the jugular bulb.

The so-called Griesinger's symptom may be described as edema of the occipital region, extending downward and implicating the nape of the neck; it is dependent on phlebitis and obstruction of the mastoid and occipital veins, and should not be confounded with edema of the mastoid region, so commonly encountered in uncomplicated empyema of the process. In connection with this symptom may be mentioned the fact that Bennet has laid stress on the diagnostic value of a distinct point of tenderness over the site of the foramen of exit of the mastoid emissary vein on slight pressure, when the same pressure applied to the mastoid process over its center does not occasion similar pain. No great reliance is to be placed on this observation, for in the personal experience of the writer of this paper this identical point of tenderness has been frequently noted and interpreted to signify the presence of an extradural collection of pus in the cerebellar fossa, usually but not always perisinuous. Jansen long ago called attention to the same symptom as indicative of an epidural collection of pus.

A symptom first appreciated by Gerhardt, and described by him, is elicited by laying the finger with sufficient force, across the course of the external jugular of the affected side, to cause obstructive pressure, when it will be noted that the vessel either exhibits but slight turgescence or none at all, while on the healthy side the external jugular, although not unduly prominent, becomes, on the application of similar pressure, engorged to a pronounced degree. This symptom is best elicited by making the pressure as close as possible to the clavicle. A beautiful demonstration of it was furnished by one case of the author's[2], in which the phlebitis of the second stage had already involved the internal jugular vein. Nothing more decidedly confirmatory of Gerhardt's observations could be demanded to carry conviction to the most skeptic.

Another manifestation which has been remarked with varying degrees of frequency recently, by Stirling[3], and by the author[4], is a moderate edema or puffiness of the eyelids of the corresponding side as a result of interference with the cavernous sinus and engorgement of the ophthalmic vein.

Associated with this symptom, intraocular inflammatory changes are observed in about 50 per cent of all cases, usually taking the form of neuroretinitis, and in some instances where there has been extension of a non-infective clot into the cavernous sinus, certain palsies of the ocular muscles have been noted as a result of pressure; while the changes in the fundus of the eye are not specially significant of sinus involvement, their importance should not be underestimated, for they oftentimes lend the needful corroboration to other not sufficiently convincing or weighty evidence; in any event an examination of the fundus oculi should not be neglected.

Percussion—Okukeff claims ability to recognize the presence of a thrombus in the lateral sinus by dullness on percussion of the affected side as compared with the clear tone of the corresponding area of the opposite side. This physical sign must require much skill in its performance, and a specially appreciative ear for its recognition, the ordinary observer not being qualified for such refinement of differentiation in high-pitched sounds; even the phonendoscope with its exaggeration of the percussion note has, in my hands at least, probably from lack of experience, failed to substantiate the claims made for its efficiency.

A symptom which manifests itself late in the second, or which may initiate the third stage of sinus thrombosis, is tenderness along the course of the internal jugular in the neck, with perhaps an appreciable cord-like feeling to the infected vein. Such a symptom would, in conjunction with those already enumerated, be regarded as absolutely pathognomonic of a thrombotic condition of the sinus, with jugular extension.

When in the second stage of sinus thrombosis a fatal termination ensues, the usually assignable causes will be, in the order of their relative frequency, meningitis, pneumonia, enteritis, brain abscess, general sepsis, collapse and operative shock. Other complications may supervene, but as a rule are deferred until, and are characteristic of, the third stage of the malady.

Third Stage—The presence of a thrombus, parietal or complete, which has undergone disintegration with systemic absorption, accompanied by rigors, rapid and great fluctuations of temperature, and *central or peripheral metastases*, terminating in septic pneumonia or enteritis. With the appearance of the distinctive features of this stage of sinus thrombosis, viz: the central or peripheral metastases, septic pneumonia, etc., the hopes of successfully combating the disease rapidly diminish, although so remarkable are the reported cures in this affection consequent on operations undertaken as a last resort that all hope must not be abandoned until the patient is *in extremis*.

The diagnosis at this critical period is to the practiced observer distressingly clear, and a fatal termination is, save as the result of favorable operation, seldom long delayed.

The array of symptoms which appears so formidable in the second stage is now augmented by additional signs of most dire portent; these are the direct result of the dissemination of septic emboli; or, in other words, the new manifestations are due to the distribution of infective material in larger or smaller masses, while the characteristic phenomena of the preceding period are attributable to absorption through the capillaries, of toxins, the product of the morbific action of the pathogenic micro-organisms on the infected tissues, as suggested by Dr. Shepard, or of infinitesimal fragments of septic material calculated to induce general septicopyemia, but inadequate from lack of volume and virulence to establish new and local infective centers, but with the arrest of pyogenic masses in their excursion through the circulation, is instituted a violent and destructive attack against which no structures of the body enjoy immunity and no tissue of any organ or member of the body can offer more than feeble and ineffective resistance; thus there originate the distinctive features of the third stage of sinus thrombosis or of otogenic pyemia, viz., embolic metastases. Should the convalescence from this stage be protracted, or the unavoidable fatality be delayed, there may appear a series of abscesses distributed over the trunk and extremities, as well as the thoracic and abdominal viscera, with the most indiscriminate impartiality. The rapidity with which cellular tissues undergo extensive destruction under the baneful influence of the infective elements thus deposited is astonishing, and can be accounted for only on the basis of diminished vital force incident to general infection, and the reduced activity of the phagocytes and leucocytes. Embolic metastases may appear immediately after disintegration has taken place in a small portion of the clot, or they may not manifest themselves until complete purulent liquefaction has supervened. They sometimes obtain entrance to the circulation through the small tributary veins in the immediate vicinity, and again are admitted through that more direct and dangerous avenue, the internal jugular vein, but whatever their mode of introduction, their evil mission is the same. They are swept along with the blood-stream until they encounter a channel sufficiently narrow to arrest their further progress, at which point they thereupon initiate an infective inflammation.

When in the second stage of sinus thrombosis, either before or after operation, there is a renewal of chills and rapid temperature fluctuations, the formation of metastases is to be apprehended, and a critical inspection of all accessible portions of the body should be exercised, careful scrutiny being directed to the neighborhood of the joints, the fibrous tissue surrounding which is especially prone to attack.

Septic embolic masses find their way into the circulation, as has been already stated, with greatest facility through the medium of the jugular vein, hence the urgency of the operation for ligation of this vessel to prevent further infective distribution. That it frequently fails to realize its full purpose, in no wise discredits the procedure. Numerous instances are reported in which, subsequent to ligation of the internal jugular, metastases have appeared both centrally and peripherally. It is nevertheless no very convincing argument to decline closing the main avenue of entrance to a territory against invaders, because there exist certain other devious paths by which admission may at times be effected.

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[2] Knapp's Archives of Otology, Vol. xxviii, No. 1, 1898.

[3] Canada Med. Record, November, 1896.

[4] Knapp's Archives of Otology, November, 1898.

While it is true that no portion of the human body enjoys immunity against the lodgment of septic particles, it is equally certain that the lungs more often than any other organs become the repository of infective emboli; according to Hessler they are attacked with a frequency one and one-half times greater than the combined other structures of the body, and in inverse ratio to the virulence of the septic agent, and the area of the infarction is the likelihood of a favorable or unfavorable termination greater or less.

In the vast proportion of cases, the infarctions are multiple and both lungs are involved, while the lower lobes participate with greater frequency than the upper lobes or apices. When the pyogenic properties of the deposit are attenuated to a considerable degree, contraction and cicatrization of the obturated region may ensue and healing result, but under less favorable conditions the embolus increases rapidly in size, being augmented by fibrin and plastic lymph, which accumulations speedily undergo disintegration by steps analogous to those which characterize the process in the thrombus, and abscess of the lung results. This may perhaps discharge itself into a bronchus, and the patient recover, but is more liable to open on the surface of the pleura and establish a pyopneumothorax or, in case it does not rupture into the pleural cavity, to give rise to empyema of the pleura; and failing either of these alternatives, the abscess of the lung is prone to become gangrenous; each of these conditions is fraught with imminent peril to the life of the patient, and may practically be regarded as hopeless.

Metastatic abscesses of the abdominal viscera, kidneys, spleen, and liver, occur with relative infrequency, and the collected cases constitute a numerically small addition to the total metastases in the aggregate. The same condition prevails in regard to the brain, the abscesses of which, in connection with sinus thrombosis, which can with certainty be regarded as metastatic, number but nine, as against forty-three which resulted from direct extension of purulent products from the carious bony surroundings.

Peripheral metastases have been recorded in great numbers, and apparently have no selective preferences as regards site, their distribution being universal. Hessler has tabulated 271 such superficial manifestations, and nearly every distinct anatomic structure has been the victim of such a visitation. Not by any means do all the metastatic inflammations result in abscess, a moderate percentage fortunately undergoing constructive metamorphosis and organization. In numerous instances septic enteritis also has run a favorable course, with complete restoration of normal function. Acute septic parenchymatous nephritis was present in a case of mine already reported, and the subsidence of the inflammation left the organ in unimpaired health.

An interesting motive for discussion is offered in the suggestion that metastatic purulent accumulations may themselves serve as foci of general infection; that, in other words, the circulation, having rid itself of the offending agent by depositing it at some remote part of the patient's anatomy, is liable to re-infection at the instigation of the septic products thus locally developed. However engaging such a theory may appear, any views which are expressed on the subject must be made at the present moment, from absence of all confirmatory data, purely conjectural.

The treatment of metastatic abscess is uniform. Wherever accessible, evacuate the purulent contents immediately, pack with gauze, and allow it to granulate.

When death occurs in the third stage of sinus thrombosis, it results in the order of their relative frequency from the following causes: pulmonary and pleural involvement, meningitis, general sepsis, abscess of the brain, and septic enteritis. Other causes have in individual instances been noted, but they represent for the most part, solitary examples, and their total is numerically inconsiderable.

Accepting the foregoing symptoms as embracing the essential manifestations encountered in the course of pyemic sinus thrombosis, a pertinent question will be, which are sufficiently constant to warrant by their presence a diagnosis of the affection? It is highly essential to the successful prosecution of treatment that the condition be recognized if possible before the establishment of those symptoms constituting unquestioned pyemia, that is to say, in the earlier stages.

That any distinctive groups of symptoms can ever be formulated by which the disease in its first stage can with certainty and regularity be recognized and operative aid extended before the establishment of general sepsis, seems scarcely warrantable expectation, for the reason, as already stated, that until septic absorption has begun the manifestations in the majority of instances are such only as characterize uncomplicated mastoid inflammations, and in no wise suggest intracranial complications. It may, therefore, be anticipated that with the exception of those rare cases which are recognized in the performance of an extensive mastoid operation, sinus thrombosis in the first stage will escape detection, the very existence of a clot being unsuspected. Published statistics clearly show that by far the greater proportion, numerically, of the victims of sinus thrombosis are subjected to operation late in the second stage of the affection. It behooves us hence to acquaint ourselves as thoroughly as possible with the distinguishing features of this relatively favorable period, and to neglect no precautions which can in the smallest degree afford protection to the patient against the greatly exaggerated dangers of the third stage, or which may conduce by even a few hours to expedition in the diagnosis of the condition. That the symptomatology of sinus thrombosis, as at present understood, is inadequate when applied with discretion and discernment by intelligent practitioners to establish the diagnosis at an earlier moment than has hitherto been possible, I am fully convinced, and the recapitulation here appended will serve to emphasize those phenomena which may with impartiality be denominated the determining factors, and familiarity with which will insure our patients against the fatality of indecision and hazardous delay. When, therefore, a patient suffering with purulent otorrhea complains of severe hemicrania in connection with sudden increase or recent diminution of discharge, and simultaneously presents a degree of systemic disturbance not conformable with a tympanic or mastoid inflammation, we should be apprehensive of some form of infective intracranial invasion, which suspicion the subsequent appearance of one or more chills with high temperature and undue exhaustion should convert into positive conviction; with the accession now of repeated chills of varying degrees of intensity, from a sensation of chilliness only to a severe and protracted rigor, associated with rapid and excessive fluctuations of temperature, profuse and colliquative perspiration, rapid pulse and respiration and great prostration, there is depicted so faithful a porayal of the salient features of infective sinus throm-sis that the existence of almost any of the local signs, at all pronounced, would be accepted as absolute con-mation by even the most skeptic and exacting medical tendants. The appearance of the local symptoms may anticipated in their chronologic order, as follows: nderness of the superior portion of the posterior cervi-l triangle, occipital edema (Griesinger), neuroretin-s, tenderness along the course of the internal jugular in, most marked and earliest elicited close beneath the gle of the jaw. Edema of eyelids (Sterling), turges-nce of the external jugular vein of the opposite side, pressure (Gerhardt), and lastly, a cord-like delinea-on of the internal jugular of the corresponding side, e to purulent phlebitis extending into the neck. One several of the foregoing manifestations will be recog-zable to a reasonably alert observer, and will supply e requisite corroborating testimony.

The writer offers no apology for the great length at hich this paper has dwelt on the symptomatology of nus thrombosis, for the importance of the subject war-nts even more exhaustive consideration of the chapter. sad commentary on the lack of familiarity with this ay be found in the recent melancholy death of one of ew York's most promising young surgeons, without agnosis and without operation.

The relative infrequency with which such conditions ere diagnosed but a few years ago contributed to the lief that the lesion was exceedingly rare, but with rad-l improvements in surgical methods during the last e years the total number of successful and unsuccess-l cases reported makes a very respectable aggregate hich the unpublished failures, could they be recorded, ould appreciably augment. This element of unpub-hed operative failures bears an important relation to e percentage of favorable prognosis, and it is un-ubtedly true not only that all mention of many cases hich are recognized and operated on too late and, there-re, unsuccessfully, is suppressed, but also that numbers patients die with this disease, entirely unsuspected, ath being attributed to "obscure head troubles," ty-oid fever, and the like. Hence it follows that when rely on the statistics of published cases for our esti-ate of the prognosis of sinus thrombosis, we are tak-g an unwarrantably optimistic view of this fatal mal-y, the published reports of which are distinctly mis-ading and in no sense accurately represent the rate of ortality. It is my belief that the percentage of mortal-in sinus thrombosis is materially higher than the rate mmonly attributed to it, for the reason that the temp-tion to suppress operative failures is of similar import d equal weight with the inducements to publish oper-ive successes.

The factor chiefly concerned, not only in diminishing atistic mortality, but in increasing the number of ac-al recoveries as well, will be above all others a more mprehensive acquaintance with the symptomatology the disease, which will result in early and accurate agnosis. The names of many brilliant contributors uminate the literature of sinus thrombosis, certain of hom have invested the subject with an especial and dis-nctive charm. Zaufal, Horsley, Macewen, Hessler, ormer, and others worthy, but too numerous to men-on, are represented by classic and enduring works and recent years in the development of symptomatology d technic; the otologists as a class have borne a by no eans inconspicuous part.

But to Zaufal, the pioneer, before all others, is due e credit of having initiated the steps which, with modifications as to detail only, we still follow for the relief of sinus thrombosis. His prophetic utterance it was which proclaimed the possibility of preserving life under conditions which had long been regarded as necessarily fatal, and it was his inspired courage which first involved the odium of imputed sacrilege in a futile attempt of presumptuous man to stay the hand of manifest destiny.

But science has many times defied the edicts of both church and state; it recognizes no limitations save those of the intellect, and acknowledges no control save the dictates of humanity. It was when medical science rebelled against the obstacles of conventionality and intolerance and became self-reliant, when it ceased to regard a fatal termination in all intracranial inflammatory diseases as the irrevocable dictum of a kind but inscrutable Providence, that then and not until then, was there instituted a series of surgical triumphs which, with the priceless assistance of that potent ally, antisepsis, resulted in the utter demoralization of infective process and redounded to the everlasting benefit of mankind.

DISCUSSION.

Dr. J. H. Coulter, Chicago—I have but a single criticism to offer, and that is that the Doctor has not presented that subject earlier. It is certainly of the greatest importance. It is particularly interesting to me, perhaps for this reason: On last Sunday morning, just after I had gotten ready to start for Columbus, I received a telephone message from a member of this Association asking me to see a case with the possible object of operation. On going to the hospital I found the patient, a little girl 5 years old, who had just been operated on by an oculist. The oculist had done a choroidectomy in order to relieve the tension of the eyeball. I have never observed more intense turgescence of the eyeball than was present in this case. The patient had been treated for seven days for a presumable meningitis. There were apparently no other symptoms present except meningeal ones. The patient had been comatose most of the time, and there had been no indications, to the physician who had been attending her, of a mastoid involvement. On close examination into the history I found there had for some time been a discharge from the ear, a purulent otorrhea, and with as good an examination as I could make under the circumstances, which was rather limited, I found a very certain involvement of the mastoid cells. There was the most intense bulging and tumefaction of the eyelids I have ever seen. Another symptom was the tenderness in the posterior cervical triangle, of which the Doctor speaks in his paper. Pressure at that point was the only thing that would arouse the child in the least.

I advised a mastoid operation as a possible hope, but with an almost hopeless prognosis. I did the operation as quickly as I could, and those looking on avowed that the amount of pus removed would certainly fill one-fourth of the cranial cavity. The hemorrhage after the first free discharge of pus was very free, and further examination revealed the necrotic walls of the lateral sinus.

This patient, even in her comatose state, was constantly and persistently pulling her ear and rubbing the neck, thus plainly indicating the pain location. The author of the paper has, I am convinced, emphasized a most important point in the positive and early diagnosis of this, at all times, serious condition.

Dr. J. E. Sheppard, Brooklyn, N. Y. My experience with sinus thrombosis has been limited, and I can only add testimony to what Dr. Whiting has said. In one case I was called in on the third day after the first chill, which came on five days after the inception of suppuration. When I saw the patient she had a temperature between 103 and 104 F., dull pain over the mastoid region, and there was tenderness over the communicating mastoid vein. Acute suppuration was going on. An examination showed a distinct optic neuritis on the affected side. Those were all the symptoms that presented at that time. The operation was done the following day and had to be performed a second time. The operative interference extended finally to the removal of two or three inches of the internal jugular vein and backward toward the torcular, with ultimate recovery.

Dr. Andrew J. Timberman, Columbus, Ohio—It is very gratifying to all of us to note the increased interest in this class of cases, not only by the specialists, but we now begin to see the dawning light in the general profession. Still, that is as yet too far in the future to hope for much immediate benefit. It is just in the class of cases that has been mentioned that the surgeon needs all the courage possible. There is almost no limit to which he may not go to obtain the results that he starts out to secure in these cases. We may begin with the idea of a simple mastoid operation and conclude, after a few steps, that we will have to perform a radical mastoid operation, and after we have done that we may not yet be satisfied. I will never forget the feelings I experienced in the clinic of Professor Schwartze, when he began what he himself considered a simple mastoid operation; following this he did the radical one; then going down in the neck he made a ligation of the jugular vein; then going up above again he found an epidural abscess, and then going into the lateral sinus and cutting the external vein, he syringed from the mastoid back into the neck. That was carried on two or three weeks with final success. It was an operation that anybody would be proud of doing, and it shows what we may do if we have the courage of our convictions.

Dr. D. M. Greene, Grand Rapids, Mich.—Dr. Whiting's paper is on a subject to which I have given a great deal of attention, and in which I have been deeply interested. Fortunately I have had but one case of sinus thrombosis, and unfortunately no operation was done on the mastoid or otherwise, but the autopsy revealed a sinus thrombosis. I made a diagnosis of mastoid disease and wanted to do an operation, but at that time, about ten years ago, it was rather a new thing to operate without external swelling, and I was opposed by the physicians in consultation. The patient died as the result, from metastatic abscesses.

I desire to emphasize the following point. Tenderness and swelling along the line of the jugular vein, was not to be felt, and there was no choked disc and no swelling above the eye, none of the signs and symptoms which the Doctor has enumerated as a diagnosis of that condition, except that after the metastatic abscesses had formed in the body, a chain of swelling occurred along the jugular vein.

Dr. A. J. Timberman, Columbus, Ohio—I would like Dr. Whiting to tell us whether he has ever, in noting the symptomatology of these cases, known of patients who complained of pain in the shoulder-blade.

Dr. Fred Whiting, New York City—In reply to the last speaker I must say that I have noticed that symptom once, but only in a fatal case, and the patient also complained of pain in the anterior pectoral region. It was a case which subsequently proved to be a septic pneumonia and a pleuropneumonia in addition at that point. In regard to Dr. Greene's statements that the cord-like condition of the internal jugular vein on the affected side did not appear until the metastatic abscesses had appeared, that is quite common. Probably that patient did not have a thrombus so complete as to entirely close the vessel, but left an opening through which the blood passed downward, and the septic material then was carried along the vein down into the lungs, so you had metastatic abscesses and then the phlebitis became extensive and you then had septic phlebitis extending so you could make out these enlargements. As to the inquiry as to whether the vein itself sometimes becomes so involved in phlebitis as to be unrecognizable in the neck, that is a condition I have not met. Schwartze mentions a case in which he could find no remnant of the vein and had only an abscess cavity in the neck. Knapp also reports a case in which he made an autopsy and endeavored to find the jugular in order to make the operation such as he would and tie off the jugular, and he could find nothing except what he characterized as a minute thread. In that case there had been very extensive cicatrical obliteration. I have never found obliteration of the vein so that it was not easily found. As a rule the vein collapses below the clot, and while it is sometimes somewhat difficult to find, if the man is well acquainted with the anatomy of the part, he can find it quite readily.

DIABETES MELLITUS.*

BY J. M. ALLEN, A.M., M.D., LL.D.

LIBERTY, MO.

Diabetes mellitus is a disease in the beginning of perverted nutrition, caused either by hereditary, functional or organic disease. There is some testimony that it may be communicated from one person to another. It also follows syphilitic lesions near the fourth ventricle of the brain. Later pathologic changes may occur in one or more of the following organs: pancreas, liver, heart, and kidneys, also in the nerve centers of the cardiac and solar plexus. The perversion consists of the entrance in to the blood of an abnormal quantity of saccharine matter. This saccharine matter practically acts as a strong diuretic by producing hyperemia of the kidneys, which results in increased functional action manifested by the passage of large quantities of urine loaded with saccharine matter depuriated from the blood. While this perverted functional action of the kidneys is largely in excess of normal, it must be considered as a conservative force removing from the blood matter which would be injurious to normal tissue metamorphosis.

If the proposition is true that the etiologic factor in this disease is a perversion of nutrition, we should begin its study from two sources: the food matter and the chylopoietic viscera.

It has been abundantly proved that the eating of large quantities of sugar does not necessarily produce this disease, but it may increase the sugar in the urine after the disease is established.

The ultimate of the carbohydrates, and a small portion of the nitrogenous substances, results in the production of saccharine matters in the process of digestion, which, with normal metabolic changes referred to, occur below the pylorus, hence it is unnecessary for us to give attention to the digestive tract above this valve.

The various experiments and pathologic investigations of the part the pancreas might play in the production of this disease is far from being conclusive. The weight of evidence, pro and con, is against the pancreas being an etiologic factor in the production of this disease. The same is true in regard to the liver and the heart, therefore, it would be a work of supererogation for me to bring forward the authorities and reasons on this point, because our text-books and literature abound with them.

It is not so clear to my mind as to the rôle the central and sympathetic nervous systems play in its etiology, because Benard and others have established beyond question that irritation or disease of the fourth ventricle is uniformly followed by sugar in the urine but this does not follow in the experiments or pathologic changes in any of the other above-named organs. Nor are any of the known diseases of the liver, either functional or organic, ever followed or associated with diabetes. The same is true of the heart. In two postmortems held by me, the pancreas was practically destroyed, and no diabetes was present.

A number of years ago my attention was attracted to the character of food prescribed for diabetic patients by the fact that it excluded all the food digested and assimilated in the duodenum and the other small intestines. And at that time neither physiology nor pathology gave any reason for this course. True, we know that the carbohydrates and saccharine matters of the food were digested and assimilated in this tract of the intestines. The withholding of these, I could easily recognize, gave these organs rest by lessening physiologic functional hyperemia. But the questiton suggested to my mind was: Why *do* this, unless there are organic diseases of the duodenum and jejunum? I believed then, as I do now, that the beneficial effects of withdrawing carbohydrates and saccharine matter from diabetic patients was beneficial *only* because of disease of the duodenum. With these views before me I began a careful examination of every case of diabetes that presented itself, either in my clinic or private practice, for chronic inflammation and ulceration of the duodenum. Since ıat time I have had twenty-six cases of diabetes that am sure were preceded by chronic inflammation and lceration of the duodenum. All of these were carefully ıd thoroughly examined for disease of the heart, liver ıd pancreas, but none was found. Seven of these ıses I made careful post-mortems of, and found chronic ıflammation and ulceration of the duodenum, but no sion of either pancreas, heart or liver, except in one, here the liver was a little pale in color. In three of ıem there were lesions near the origin of the pneumoıstric nerve which I ascribed to reflex irritation from ıe duodenum.

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In 1878 there was a patient admitted to the Kansas ity Hospital, with paralysis of the upper and lower exemities which had existed for five days. He gave ıe history of having had diabetes for about six months, so that he had had syphilis eighteen months before ıtrance, which had followed its normal course. He ied twelve hours after admittance. Post-mortem exnination revealed a clot in the spinal canal near the nter of the last cervical and the first dorsal, the relt of degeneration of the arterial coats, and gummata the fourth ventricle of the brain; the other organs the body were in a healthy condition, including the ıodenum.

As to the value of opium, after studying its therapeuc effects, which are, for a time, to arrest secretion, fter which, under its use, secretion returns to a normal ndition, as is demonstrated in the use of it in large ıantities in peritoneal inflammations and opium habuates, I have failed to see why it could possibly be eneficial in diabetes mellitus, except its controlling efct on reflex irritation, which does not require the ımense doses that are given. This fact was strongly lustrated in two cases of diabetes mellitus following ıchymeningitis, which fell under my care. I used pium in these cases in increasing large doses, yet it had effect whatever, neither reducing the quantity of the ıgar in the urine nor the quantity of the urine seeted.

When it is remembered how abundantly the duoenum is furnished with blood, and how intimately it connected with the central nervous system by the par ıgum, and to the sympathetic through the solar plexus; the splanchnic with the thoracic centers and filaments om the spinal cord, also with the plexus of Meissner the mucous membrane, and that of Auerbach between ıe muscular coats; and how abundantly it is studded ith the glands of Lieberkuhn and Brunner, the seetions of which have much to do with the metabolic ıanges of our food; and coupling this with it being ıe receptacle for the secretion of the bile and pancreic fluid, we are forced to recognize that it is an organ great importance in the digestive and assimilative rocess, possibly as important as the stomach itself. By its anatomic location and relation to the stomach, becomes the receptacle for all the matter that passes ırough the pylorus, and in those who are suffering from ther functional or organic disease of the stomach uch of this matter is highly irritating. Its extensive ıd various connections make it the great reflex center the alimentary canal. This is demonstrated by the ıct that nearly all severe burns produce inflammation ıd ulceration of this organ. This organ is also exosed to the inflammatory diseases of the intestinal ınal, particularly dysentery, typhoid fever, and occaonally the exanthematous diseases.

I hope I shall be excused for making this digression, ecause of the scarcity of medical literature on the subject, and it enables me to bring before you the importance of the functions of this organ, and the frequency with which it is exposed to disease.

It is fair to assume that chronic inflammation and ulceration of this organ would materially affect the secretion of its glands, and possibly its accessories, thereby arresting those metabolic changes in our food whence the saccharine matter is derived, and rendering them unfit to be converted into glycogen, so that by natural selection they are taken up by the absorbents and veins and carried to the kidneys to be depurated by them from the blood.

As all the cases of diabetes that have fallen under my care have been more or less of a neuropathic diathesis, with high reflex sensibilities, and recognizing the duodenum as the great center of reflexes in the alimentary canal, the question has often presented itself to my mind as between the explanation given above in regard to the metabolic changes in the food as an etiologic factor and peripheral irritation, producing reflex irritation, affecting the nutrition of the nerve-center that presides over the conversion of starchy matter into saccharine matter, and as to which is the etiologic factor in diabetes.

I am free to admit that the tendency of my mind, taking into consideration the origin and distribution of the par vagum and the connection of the duodenum with the sympathetic nervous centers, is to conclude that peripheral irritation is the more probable factor, because Brown-Séquard and others have well established that reflex irritation is sufficient to arrest and prevent secretion; and, if continued long enough, to produce structural change of tissue.

Basing my treatment on the philosophy of etiology and pathology as given, it is as follows:

1. Allow the patient to eat only such foods as can be digested by the stomach, giving the duodenum rest, and thereby preventing physiologic hyperemia. This continued for a time will reduce the hyperemia to a point so small and feeble as not to be a source of irritation to the inflamed structures.

2. Use intestinal germicides, the value of which, in my experience, is in the order given: creosote, sulphocarbolates of zinc and soda, hyposulphite of soda, eucalyptol, menthol, oil of cinnamon and sulphid of calcium, salol, betanapthol, carbonate of guaiacol. I have found the pulvis hydrastis canadensis, combined with salol, an efficient stimulant and alterative to the mucous membrane. To control reflex irritation, I use 1-15—1-10 gr. of morphin three times daily, or aqua chloroformi, a dessertspoonful three times daily.

All of these cases suffer more or less with anemia of the nerve centers: To prevent this I give 1-60—1-40 gr. strychnin nitrate three times a day, or an equivalent amount of nux vomica. As a tonic I use either the bitter tonics or the phosphates of lime and soda, or the wine of the phosphoglycerate of lime (Chapteau). The ferruginous preparations and the cod-liver oils should be excluded.

Many cases of diabetes have hyperacidity and hypersecretion caused by reflex irritation originating in the duodenum, so great that when the chyme passes through the pylorus it can not be rendered sufficiently alkaline by the secretions in the duodenum to undergo normal metabolism.

This condition is always associated with an increased amount of sugar in the urine. To render the chyme less acid we give from 20-30 grs. of potassium bicarbonate, largely diluted in water, just after eating. Its beneficial effects are at once manifested by a decreased amount of sugar in the urine and in the amount of urine secreted; it also makes it far less irritating to the duodenum, thereby decreasing the reflex trouble. The salicylate of soda is recommended for the same purpose, but in my hands the results have not been so desirable; the only advantage it could have over potassium bicarbonate would be its slight germicidal properties; but this effect is not needed, for the reason that I am giving better germicides.

Another combination of remedies which I have recently used with apparent benefit is as follows:

R. Creosote ....gtts. 1 3
Tinct. nucis vomicæ.................. .....gtts. x
Saw palmetto..............................ʒi
M.

In the saw palmetto we have something of a tonic as well as a stimulant to the mucous membrane, thereby lessening retrograde metamorphosis of this tissue.

As a matter of course the environments of the patient should be hygienic, with plenty of fresh air, also baths and massage of the skin every other day, and no mental nor physical work.

A large majority of the cases of diabetes which I have treated have been in my clinic of the University Medical College, Kansas City, Mo. Only three of these remained with me ten or twelve months, when they were discharged cured. Two cases recovered in my private practice. The remaining number I was unable to follow, so I can not give results. I think I do not say too much when I say all of them were benefited, as indicated by a decrease in the amount of secretion of urine and the amount of sugar present.

Excluding heredity as a factor, and beginning early before pathologic changes have occurred, I should feel hopeful of favorable results.

CLINICAL NOTES ON DIGITOXIN.*

BY JOHN P. SAWYER, M.D.

CLEVELAND, OHIO.

Among the few really indispensable drugs which we have, digitalis would be placed in the very front rank by most medical men, and this is true in spite of the fact that its use is attended by certain disadvantages, and that these disadvantages are not regularly to be estimated, owing to the complex nature of the constituents of the drug, and the varying proportions in which these are present in the crude leaves. The various alkaloids and glucosids, obtained from the crude drug, have not been widely known because of technical difficulties in preparation, and have not made their way into general favor. Moreover, the exceeding smallness of the dose, and the considerable risk of cumulative effect have added to the distrust with which most practitioners have looked on these drugs. But the evident gain from the use of a definite active principle is so great that determined efforts have been continued through years, and there is now a considerable mass of cumulative evidence very favorable to the use notably of digitoxin. And I bring it to your notice here because I have found in an increasingly free use of the drug that it is more speedy, more certain than digitalis; that it is efficient in most cases where digitalis is at all likely to succeed—and this may be well inferred from the fact that digitoxin confers on the leaves a large part of their ordinary effectiveness—and, moreover, in a number of cases I have found digitoxin efficient to a remarkable degree, when digitalis had failed utterly in an ordinary method of administration, and when also a long list of other allie heart tonics had been employed successfully. In fac I am now using digitoxin in a majority of cases unde my observation which present any indication for the us of digitalis.

I will especially refer to an article by Wenzel[1], i which he reports the use of digitoxin under Unve richt's directions in the Madgeburg hospital. This i the more noticeable as within a few weeks Unverrich has stated that he has in these intervening years mad a continually increasing use of digitoxin, until now i has nearly displaced digitalis.

The remedy has been administered in solution wit glycerin, alcohol, chloroform diluted in water. It ha been made use of hypodermically, and has largely bee given per rectum. Many writers refer to its irritatin properties on the stomach, but this is true particularl of earlier articles, and as the dose has been diminishe there are apparently fewer reports of unpleasant results on the digestive canal. I have as yet to see in th small dose I employ the first symptom of irritation i the stomach, and I have not found it necessary to resort to any other means of medication than by capsule or tablets given by the mouth.

The desirable effect sought to be gained by the administration of digitalis is an increase of arterial pressure, usually with diminution of pulse-rate; while o the other hand we seek to avoid continuance of high arterial pressure with quickening rate, heightened bloo pressure with irregularity, and as the extreme the rapi sinking of blood pressure with sudden cessation of hear action, and death. The great weight of experience i that digitoxin accomplishes this first desirable indication within from twelve to twenty-four hours, and th result once accomplished is maintained for a surprisingly long period of time.

My own observations coincide entirely with thes statements, and I have a sphygmogram taken from a cas of a woman 30 years of age, with a rapid pulse of lo tension, slightly irregular, with heart apex in the mammary line in the fifth interspace, with a systolic murmu heard at the apex and toward the base, with accentuation of the pulmonary second sound, complaining of shor ness of breath on slight exertion, complaining of a dr hacking cough after exertion, and particularly annoyed b it on lying down at night—so much so that she was unable to sleep for several hours. She had also noticed considerable diminution in the amount of urine. directed one-eighth of a milligram, about 1/500 grai of digitoxin three times a day until the pulse was les than 80, and directed her to report in forty-eight hour She took two doses the first day, and had very littl cough at night; one dose the following morning, and the finding her pulse less than 80, took no more until I ha seen her again. I told her to take one dose each evening and report again in forty-eight hours. when I too a second tracing. which shows a decidedly improve condition of arterial pressure. pulse wave far better su tained. and the rate reduced to normal. The patien took but three or four doses, and has been entirely relieved of the symptoms of insufficiency with which sh came. and has noticed a marked increase in the quantit of urine.

This leads me to the statement that I have repeated noted the favorable diuretic effect in digitoxin. Wh I have seen in this one case. I have seen in more than core like it. In permanence and pleasantness of effect, have seen nothing to compare with it, and in these mall doses I have seen no irritation of the stomach.

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[1] Centralbl. f. Inn. Med., 1885.

As to its effect in cases where other remedies have ailed, I will briefly state the essential points in two ases, each of which I had seen four or five years before. nd in which I had made the diagnosis respectively of ortic insufficiency and of mitral insufficiency. A gen-eman of large frame, 52 years of age, presented him-elf for examination, and I found the apex of the heart the sixth interspace in the mammary line, the apex-eat forcible, heaving, pulse 80, water-hammer pulse. apillary pulse, arteries somewhat thickened. On aus-ultation a soft murmur practically replaced the second ound at the aortic cartilage and was transmitted dis-nctly down the sternum, and into the carotids; urine ormal. Patient was occasionally under my observa-on as consultant, and last spring was in an advanced tate of cardiac insufficiency with increasing vascular hanges and secondary disturbances, with albumin, hya-ne and granular casts. The various heart tonics were ied, including digitalis in its preparation of tincture, nfusion, extract, dried leaves, convallaria, nitroglycerin, donis, strychnia, all being used at various times, ac-ording to the indications presented by the special con-tion of the patient. From none of the digitalis group ere any results obtained comparable to those gained rom the digitoxin, and this in a patient in time of econdary disturbances, quite marked as regards the in-estinal canal, and without the frequently mentioned rritating action of digitoxin. And in this case, the avorable effect on the circulation seemed to be very fficient in quieting the stomach. The patient died after he establishment of thrombosis in the popliteal arteries. he post-mortem confirmed the diagnosis of aortic in-ufficiency.

Another case is that of a young woman, 23 years of ge, whom I saw five years ago, and not again as a atient until I was called in consultation, finding her n an extreme cardiac insufficiency, propped up in bed, nable to lie down, with marked edema and ascites, pas-ive congestion of the kidney, and marked secondary dis-urbance in the intestinal tract, vomiting, flatulence, nd diarrhea—all contributing to plague the patient. found that a number of gentlemen had seen the case n consultation, and I could mention no other cardiac onic which had not been tried out in competent hands, nd the attending physician confessed his want of faith n the trial of digitoxin. But nevertheless the prescrip-ion was given, and the effect was astonishingly prompt nd helpful. The shortness of breath was quickly re-ieved, the passive congestion of the kidney improved ery markedly, and with the betterment sleep and rest vas much improved, and the stomach disturbance con-iderably lessened. A test of the stomach contents ob-ained at the next vomiting showed an excessive amount f hydrochloric acid, and the prescription of a simple lkali was attended with extremely helpful results. With he efficiency of the digitoxin, and the relief obtained rom the use of the alkali the patient made a recovery rom what was truly a desperate condition. To the ligitoxin belongs a large part of the credit in this case, nd the establishment of compensation was very decid-dly helped by the occasional use of a few doses of the lrug given in this case, as in the preceding one, in ¼ nilligram doses.

These cases are those of primary heart lesion. Anoth-r extreme case was that of a man 40 years of age, with hronic parenchymatous nephritis, in whom the secondary cardio-vascular changes became very prominent, the cardiac insufficiency at last so extreme that death seemed immediately impending from that cause. In this case also the usual cardiac tonics failed to check the failure of heart muscle, and the very able attending physician was more prone to discuss the probable post-mortem findings than to consider anything likely to relieve the desperate condition. Digitoxin given in ¼ milligram doses three times a day was efficient, and a fairly established compensation was obtained for a time, the patient dying six months afterward from uremia, and not from the cardiac insufficiency.

These cases could be multiplied were it desirable, but I present them to illustrate the observations I have made of digitoxin, leading me to summarize its advantages as prompter than digitalis; in sufficiently small doses no more irritating than digitalis; efficient as a diuretic; and so frequently successful when digitalis and other allied preparations have failed, that it would seem no case should be despaired of until the efficiency of this active principle has been tried, and this promptly efficient action not seen only in a limited class of cases, but throughout nearly the whole range of the indications for digitalis in chronic disease. My experience with its use in acute disease is not sufficient to warrant more than favorable notice, and I have therefore not reported the relatively few instances in which I have used it in this class of cases.

THERAPEUTICS OF PNEUMONIA.*

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In asking your atttention to the "Therapeutics of Pneumonia," I am aware that I am traveling over a well-worn way: the mass of literature on the subject is simply appalling. But I have the temerity to ask your attention to the subject again, for I believe that the mortality of the disease is so great under ordinary treatment that the burden is on us continually to review our treatment until the statistics of the disease show some reason for our connection with it. I do not propose to weary you with a discussion of the various pathologic conditions that are somewhat loosely described by the general term pneumonia, but wish to be understood as discussing the acute lobar variety. The etiology of the disease is fairly well established. A pathogenic germ described by Fraenkel is said to be present in over 90 per cent. of all cases, although the same organism has been found in pleuritis, pericarditis and even meningitis, and is present in the nasal and salivary secretions of healthy people. The pneumococcus of Friedlander and the streptococci of suppuration are not infrequently found. We are, then, justified in classing pneumonia as an infectious inflammation, the infection being quite often of a mixed type. As a predisposing cause, exposure to cold is usually considered the most important, but I am inclined to think a lowering of normal resisting power, whether from exposure to cold, overexertion or other cause, a fairer statement. It is quite commonly considered a disease of the winter months, but I think this no more true of pneumonia than of other infectious diseases. The eighth and ninth U. S. census reports show the disease to be more prevalent below than above the thirty-ninth parallel, which might be taken as proof that extreme cold weather is not a predisposing cause. I am of the opinion, however, that the excess in per cent. of cases, and also in per cent. of mortality in the Southern States is due to the large percentage of negroes in that section, who, from poor hygienic surroundings and lack of intelligent care, are easy victims to the disease.

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My contention then is that the germ or germs that are the specific cause of the disease are fruitful in proper soil at any season of the year and in any latitude. Having then an inflammation due to a specific cause, the modern trend of therapeutics will lead us to look hopefully for a specific treatment; and, indeed, results have been already attained by investigators like Washbourn[1], Pane[2], Rienzi[3], and others that sustain this view. As far as I am informed, however, we are not at the present time in a condition to avail ourselves of a specific so well established as to warrant its general use, and are compelled to follow a line of expectant treatment. As a result of this treatment Drs. Townshend and Coolidge, who worked up the records of the Massachusetts General Hospital from 1822 to 1889, and who characterized the treatment before 1850 as heroic, from 1850 to 1860 as transitional, and since that time as expectant, rather hopelessly conclude that neither the duration of the disease nor its convalescence is affected by the treatment. This, let me say, parenthetically, is in line with that therapeutic nihilism that has been for the last twenty years so prevalent. Of the dietary of the disease I have only to say, it should be no different from that of other acute diseases. Of the hygienic surroundings the same may be said. I would, however, lay special stress on the importance of pure air, i. e., air free from infectious germs. Beverly Robinson[4] recommends that some disinfectant vaporized by boiling water be provided, both for the benefit of the patient and the protection of the attendants. How valuable such a measure may be I shall leave the bacteriologists to decide. Antiseptic mouth washes and gargles, or better, sprays, are important. Regular forcible inspiration, I consider extremely useful at such intervals and during such time as each individual case will admit. Local applications while supported by staggering statistical tables have not in my experience proved of especial value. A recent article by Prof. May[5] especially commends a liberal use of ice, topically, while Kolipinski[6] advises hot water bags to maintain a temperature of 110 F. My own experience with these methods is so limited as to render an opinion worthless. The agents that have proved most useful in my hands have been acetanilid, some derivative of opium, strychnin, nitroglycerin, alcohol, oxygen and digitalis: The acetanilid in the initial stage where nervous disturbance and pain are present has seemed to me an excellent agent; the opiate for pain not amenable to acetanilid, and for the relief of a distressing cough; for the former sulphate of morphin, for the latter codein or, what is probably better, heroin; the strychnin for the sudden failure of heart power that so often proves fatal, and in this connection let me say that 1-20 gr. is none too much for a crisis, to be repeated in from two to four hours as indicated; the nitroglycerin for its well-known effects on arterial tension; the alcohol as an aid to strychnin—champagne preferably; the oxygen, when deficient oxygenation is evident, and the digitalis from the time a diagnosis is made until convalescence is established. Some years since Petresco[7] urged on the profession the use of this drug in massive doses and supported his contention with favorable statistics, but the treatment did not stand the test of experience, mainly for two reasons: in the dose recommended the drug in many cases interfered with nutrition by upsetting the stomach, and its slow action made it uncertain whether its full physiologic effect could be obtained in time to ward off disaster. To those who have made a special study of the physiologic action of digitalis, and especially to those who have noted the actual increase in cardiac tissue resulting from its use, a result very strikingly brought out by some experiments by Prof. Hare[8], it will not seem extravagant to say that we need from two to three days to establish a full physiologic action. While we may expect a marked increase in the force of systole, a rise in arterial tension, and a lengthened interval between diastole and systole in from twelve to twenty-four hours, we can not expect marked trophic changes so soon. While theoretically we might look for an initial change in this direction early in the use of the drug, an appreciable effect is probably not obtained under two or three days. I hope soon to see a series of experiments demonstrating this point. However, the theory that digitalis will increase cardiac tissue is too well established to admit of successful controversy.

My method of administering the drug is to give small doses at frequent intervals, being guided in amount largely by the tolerance of the stomach. A pill or tablet is less likely to disturb digestion than a liquid preparation.

To summarize: While the other agents mentioned are to be used as symptoms indicate and are of undoubted value, I am firmly convinced that the routine use of digitalis as I have suggested will not only greatly lessen the mortality of the disease, but will render the use of most of the other agents mentioned unnecessary in a majority of cases.

BIBLIOGRAPHY.

1. Brit. Med. Jour., Feb. 27, 1897.
2. N. Y. Med. Jour., May 7, 1898.
3. Brit. Med. Jour., April 9, 1898.
4. Med. Rec., Feb. 1, 1898.
5. Merck's Archives. May, 1899.
6. Monthly Cyclopedia. May, 1899.
7. Therap. Monats., Feb. 10. 1891.
8. Therap. Gaz., Dec 15, 1897.

* And I can well believe that "jam satis" will be the mental if not the verbal greeting such a title will invoke.

VALUE OF THE TUBERCULIN TEST IN THE DIAGNOSIS OF TUBERCULOSIS.*

BY EDWARD O. OTIS, M.D.
BOSTON.

So long as the tuberculin test has many strong opponents as well as ardent advocates, future evidence from the experience of those who are using it is of value in deciding its position as a method of diagnosis. Those who oppose its use for this purpose, take the ground that it is dangerous, either by rendering more active already existing disease which is in a more or less quiescent state, or by infecting the general system, or in both of these ways; or, on the other hand, that it is unreliable by giving reactions in other diseases, notably syphilis, and by not reacting in certain cases of tuberculosis, cases demonstrated to be such by other methods of diagnosis.

Its chief value, and I believe it is valuable, though not infallible, is in the assistance it renders us in detecting early and doubtful cases impossible of detection by ther diagnostic methods. It is superfluous when the iagnosis can be established by the ordinary means.

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The X-ray examination, in the hands of an expert, eems to be a more accurate and delicate test of early ung disease than even tuberculin, and without the fear f possible injury as with the latter, but the required echnic and experience, and the expensive apparatus imits its use to the few. The tuberculin test can be used y anyone. The importance of the earliest possible diagosis of pulmonary tuberculosis in reference to progosis and treatment is of incalculable importance. Both uscultation and percussion and the sputum examinaion fail to do this in many cases, more, perhaps, than e are aware. If we wait until tubercle bacilli are found n the sputum, the case, in the writer's opinion, is one r more steps beyond the earliest stage. It is unsafe nd in some cases entails a fatal delay to wait for this roof. Before a definite diagnosis is made, one is natrally disinclined, and lacks the requisite authority, to nstitute a vigorous plan of treatment in a mere suspect. Certainty of facts renders one resolute and energetic in ction.

The problem before us then is, how far will tuberculin id us in reaching this much desired goal of early diagosis? Will it, in the large majority of cases, give a ecognizable reaction when tuberculosis is present, and ail to do so when the disease does not exist? In doing his will it injure the patient, or in any way lessen is chances for recovery? Further, what is the amount o be used in order to accomplish the one object and void the other?

Some at least of the opponents, I fancy, have been rejudiced by the dire results following the use of enorous doses of tuberculin at the time of its discovery, nd their adverse opinion seems rather to be due to this ivid and unfortunate experience, than to investigations with the small doses now used. At all events, the adocates of the test seem more generally to have produced heir evidence. The question of injurious results from he test is a difficult, if not an impossible, one to finally nd fully answer. Take, for instance, a case, which by he usual methods of examination gives no evidence of ubercular infection: it reacts to tuberculin, and soon fter the evidence of active tubercular trouble is manfest. Did this activity exist, undiscovered, before the est, or was it accelerated by it? The almost, if not uite, universal conclusion of the many patient users f the tuberculin test is that they have not encountered njurious results, when used in small doses, and my own xperience accords therewith. Such evidence comes rom Krause, Gaffie, von Jaksch, Grasset, and Wedel, Springthorpe, M. Beck, and many others in Europe; nd from Trudeau, Whittaker, White, F. H. Williams, Klebs, R. C. Cabot, and others in this country. Asuming then, as the weight of evidence seems to prove, hat when used in small doses, generally not over ten milligrams, there is no permanent injurious effect, we ome to the second half of the question: Can we depend n the results? In the large majority of cases I believe we can, but not in every case. If we shall in the future be able to determine some method of more exact dosage, proportioning, perhaps, the dose to the weight of the ndividual, or discovering some other constant ratio beween the dose and the individual, we may find the test o be true in every case.

In common with others, I have had cases of proved pulmonary tuberculosis which did not react, at least so far as the general reaction was concerned, and, on the contrary, it has happened to me to obtain a more or less complete general reaction when I felt rather sure that no tuberculosis existed. It seems to be not unlikely that beyond a certain dose maximum to the individual in question, a general reaction may occur in a healthy person, which means that he is simply poisoned by the toxins of the tuberculin. I have also obtained reactions in syphilis.

That well-established pulmonary tuberculosis, where tubercle bacilli exist in the sputum, sometimes fails to react, at least in the general reaction, as has happened more than once in my experience, is probably either due to the insufficiency of the dose in those particular cases, or to the fact that White points out: that the general reaction is slight and the local reaction marked in advanced cases, and I overlooked or did not seek for the local reaction. However, the tuberculin test is not needed for well-marked cases; they are readily and absolutely detected otherwise. It is in the early cases, as I have said, that tuberculin has its great value, and where I believe the test is the most delicate, and the results elicited by it can be depended on.

My observations have extended over 111 cases, originally undertaken in an ambulatory clinic to see if I could arrive at an approximate conclusion as to the proportion of cases of cervical adenitis which were tuberculous. While making these investigations, I also embraced the opportunity to test all cases which came to the clinic, which, for any reason, suggested tuberculosis, as well as several cases of syphilis and other general cases which gave no evidence, clinical or otherwise, of tuberculosis. My observations of last year were published in the *Medical News* of July 9, 1898; the tables of results as there given, as well as those of this year, I append to this communication. In the total number of 56 cases of cervical adenitis taken without selection, there were 33 reactions, 6 slight reactions, and 2 doubtful ones. Throwing out the slight and doubtful ones, we have 58.8 per cent.; including them 73.2 per cent.; or an average of 66 per cent., so that this would indicate the proportion of cases of cervical adenitis that were tuberculous so far as an inference can be drawn from this number of cases (55), and dependence can be placed on the tuberculin test, but a larger number of cases, and other methods of investigation must corroborate or disprove these deductions. It seems not unlikely, however, that this is not far from the truth, for Volland, from his investigations, makes the proportion 68 per cent., and Dr. F. C. Moore[1], out of 28 cases of chronic enlargement of the glands, mostly of the neck, which had to be operated on for various reasons, found that 73 per cent. were tuberculous. In 8 cases of syphilis and 1 doubtful one, there were four reactions. One of these cases was injected for cervical adenitis and reacted moderately after 5 mg., and markedly after 10 mg. A few days later she developed evidence of secondary syphilis. Another case was injected for a chronic enlargement of the metacarpal bones of the first and second fingers of the left hand, of three months' duration. The clinical diagnosis made was either tuberculosis or syphilis; 5 mg. gave a marked reaction, leaving the diagnosis, however, still in doubt, as either disease may have given the reaction.

There does not appear to be any doubt then that a certain proportion of syphilitic cases react. This fact, however, would rarely interfere with the test in its most useful, nay principal, application in suspected early cases of tuberculosis. In seven cases of more or less advanced pulmonary tuberculosis containing tubercle bacilli in the sputum, three gave no general reaction after 10 to 12 mg., and one none after 5 mg. Unfortunately the local conditions after the test were not noted.

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[1] London Lancet, Sept. 17, 1898, p. 734.

The only deduction that can be drawn from these few cases is that pulmonary tuberculosis, when more or less advanced, will not always give a general reaction from 5, 10 or 12 mg. of tuberculin; but here again let me repeat that the test is the most useful in the early cases where it is the most sure, the general reaction being marked, and the local slight. In the other general cases the results corroborated the clinical diagnosis in a majority of instances. Whether any reactions occurred without the existence of tuberculosis, one can only conjecture, but it is rather surprising that an enlarged thyroid gland or atrophic rhinitis and pharyngitis sicca should give a reaction without other evidence of tuberculosis.

In no case did I have any serious event as the immediate result of the injection or as a later consequence. The clinic being an ambulatory one, the statement of the patient as to his sensations was principally relied on as to whether or not a reaction had occurred, that is, the general reaction was depended on. If, from six to twenty-four hours after the injection, the patients complained of excessive weakness, sensations of heat and cold, nausea, anorexia, pain in the back and limbs, severe headache, sweating, sleeplessness, summed up by them as feeling "very sick," "awful bad," or "miserable," and they appeared at the clinic the next morning with coated tongue, rather a rapid, weak pulse, more or less rise of temperature—if the other symptoms were marked, not much reliance was placed on the temperature at that time—looking as if they had just arisen from a serious illness, a reaction was considered to have occurred. The cases were generally afebrile at the time of the injection.

Objection may be urged as to the accuracy of these tests when the patient could not be kept constantly under observation, as in a hospital ward, but anyone who has listened to the graphic recital of the reaction symptoms, and seen the striking evidence of weakness and depression exhibited by the patient, would be convinced, I am sure, that a general reaction had occurred. Moreover, since making my first set of tests a year ago, Dr. R. C. Cabot, at the out-patient department of the Massachusetts General Hospital, has followed a similar plan in tuberculin and other injection tests, and has also satisfied himself that accuracy in results can be attained in an out-patient clinic[2].

As a matter of convenience I gave the injection in the forearm or upper arm, generally subcutaneously. The site of injection was almost invariably swollen and tender and painful for a few days, but I never had an abscess. I would by all means advise deep injections in the muscles, either of the back or limbs, preferably the former. Asepsis was practiced in the procedure, and a common glass or metal subcutaneous syringe was used. Either Koch's original tuberculin, or that made in the Adirondack Cottage Sanatorium Laboratory, kindly furnished by Dr. Trudeau, was used. As the latter seemed, in my experience, to be less concentrated than the former, judging from results, I finally confined myself to Koch's, previous experience with which had taught me what to expect from certain doses. One is likely to be misled, I think, if he indiscriminately uses tuberculin of different strengths, and, therefore, he can judge of his results better if he sticks to one preparation which does not vary in strength. I diluted the Koch's tuberculin to a 1 per cent. solution, using for the purpose either distilled water or a normal salt solution. By adding a few drops of carbolic acid I was enabled to keep the solution clear much longer than without it. With a pipette graduated into tenths and one-hundredths of a c.c., milligrams could be easily measured.

There is much diversity of opinion as to the dose, among authorities. Some assert that they obtain satisfactory results with very small doses, as for instance, Grasset with .2 to .5 mg. for an adult, and Gaffie, .05 mg. for infants. The majority, however, use larger doses, from .5 to 10 mg., and occasionally 20 mg. A. C. Klebs regards 20 mg. as the "maximum dose which can be injected safely," but he would not begin the test with this dose. It is not unlikely that this difference of opinion as to the dose is largely due to the difference in the preparations. I have never used over 12 mg. of Koch's tuberculin, generally from 5 to 10 mg. for an adult, and from .5 to 3 mg. for children.

I would summarize my conclusions as follows:

1. The tuberculin test indicates early tuberculosis, by a general reaction before it can be detected by other methods, except the X-ray, in the large majority of cases, with a dose of from 5 to 10 mg. of Koch's original tuberculin.
2. No injurious results occur from the use of tuberculin in these doses.
3. Proved tuberculosis in a more or less advanced stage may fail to give a general reaction from doses of from 10 to 12 mg.
4. Syphilis gives a reaction in an undetermined proportion of cases.
5. There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction.
6. The reaction may be deferred from six to twenty-four hours.

As rules to be observed in making the test:

1. Always use the same tuberculin and of a standard strength.
2. Use aseptic precautions in giving the injection.
3. Make the injection deep into the muscles of the back, arm, or leg.
4. Keep a two, three, or four-hourly chart of the temperature if possible, beginning twenty-four hours before the injection.
5. Allow several days to elapse before repeating the test.
6. In early cases depend on the general reaction; in late cases, if the general reaction fails, carefully look for the local.

Local Treatment of Rheumatic Joints.

The swelling of the synovial membranes and ligaments in retarded convalescence or chronic cases taxes the patience of both the sick and the physician. Vesicatories, kept on for half an hour, and frequently repeated; the wet bandage or pack snugly applied, so as to compress gently; compression by bandages or collodion; gentle massage; the galvanic current daily applied, find their indications in many and various cases. Iodin will come in for its share of usefulness. Besides the internal administration of the iodids—potassium or sodium, or both combined in doses of 5 to 20 grains daily—the external application will be found beneficial. The official ointment will act through the gentle handling and kneading necessitated by its use. Solutions of potassium iodid in glycerin will act better, but are inferior to the lanolin ointment. Superior to all, however, is the application, twice daily, of one part of iodoform in from 8 to 15 of collodion or flexible collodion. It is brushed over the swollen part copiously and allowed to dry while the limb is kept absolutely at rest for ten minutes. Only such scales as get detached spontaneously may be removed; otherwise the next application is made on top of the preceding ones. Very old cases, with chronic effusion into the joint, require aspiration and washing out.—*Jacobi, in "Therapeutics of Infancy and Childhood."*

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[2] Cabot, R. C.: Substitutes for Tuberculin in Diagnoses. Jour. Boston Soc. of Med. Sci., January, 1899.

REPORT OF CASES OF PULMONARY TUBERCULOSIS, TREATED WITH INTRAPLEURAL INJECTIONS OF NITROGEN, WITH A CONSIDERATION OF THE PATHOLOGY OF COMPRESSION OF A TUBERCULOUS LUNG.*

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(Concluded from Page 1027.)

Case 26.—Mr. J. S., aged 29, was examined November 3. His family is free from tuberculosis. In the spring of 1896 his illness began gradually with cough and expectoration, followed by a severe attack of hemoptysis; in the spring of 1898 a second attack of hemoptysis. Since that time his sputum has often been mixed with blood; weight 145 pounds; pulse 104; temperature 99.5 F. There are relative dulness, high-pitched respiratory sounds and crepitant râles over the right apex and the greater portion of the right upper lobe.

October 4: 125 cubic inches of nitrogen was injected into the pleural cavity. The pneumothorax was perfect, with very slight inconvenience to the patient.

October 11: Weight is 150 pounds; the cough considerably diminished; temperature 99 F; pulse 100. He feels generally improved. No report since October 11.

Case 27.—Mr. J. M., aged 32, was examined Nov. 17, 1898. His parents are living and in good health. The first indication of disease in this case was a pulmonary hemorrhage in July, 1898. At intervals varying from a few days to a month he has had eight attacks of hemoptysis since July. He had a very slight hacking cough prior to his first hemorrhage, to which he paid no attention. The attacks of pulmonary hemorrhage were followed by fever and night sweats; weight 138 pounds. (Normal 165 pounds.) He is fairly well nourished; respiratory movements are diminished on the right side. There is some retraction of the right supraclavicular fossa, dulness over the apex only, but the resonance is also slightly diminished over the entire right upper lobe. There is bronchovesicular breathing over the right upper lobe and numerous crepitant and mucous râles. There are a few scattered râles over the left lung, but no dulness; temperature 100 F; pulse 120; respiration 22.

November 18: 165 cubic inches of nitrogen was injected into the right pleural cavity; pneumothorax perfect and gives rise to considerable dyspnea.

December 12: Weight is 140 pounds; temperature 90 F; pulse 120; respiration 21. Pneumothorax is still perfect. The cough is much diminished and expectoration very slight.

December 18: 160 cubic inches of nitrogen was injected.

December 27: Patient was confined to his bed on account of profuse diarrhea. His abdomen became painful and tender, the diarrhea alternates with constipation, and after a month's illness he had an intestinal perforation followed by a circumscribed abscess in the peritoneum. He was removed to Cook County Hospital. The peritoneum was to be opened and drained, but the patient died from the effect of the anesthetic before the incision was made. Immediately after death an incision was made through the abdominal wall. There was a diffuse tuberculous peritonitis; the intestines were matted together, and a large abscess was found in the right half of the abdominal cavity.

Case 28.—Mr. M. J., aged 32, was examined Nov. 11, 1898. His parents are living and in good health, and his entire family is free from tuberculosis. His illness began one year ago with a slight cough and expectoration, which has gradually increased. Eight months ago he had several slight attacks of hemoptysis. There is a large quantity of expectorate (four ounces in twenty-four hours). He has had fever and night sweats during the last three months; pulse 100; temperature 101 F; weight 131 pounds. There is relative dulness over the right upper lobe, and mucous and crepitant râles are heard in this area. There are a few scattered râles over the right lower lobe, and some coarse dry rhonci throughout the left lung.

November 15: 130 cubic inches of nitrogen was injected into the right pleural cavity with slight dyspnea, and the patient returned home within an hour after the operation. Within the first few days after the operation there was profuse expectoration.

November 30: Weight is 137 pounds. The night sweats have subsided, the expectoration is diminished; the dry râles over the left lung are somewhat more numerous. There is still a considerable pneumothorax; temperature 99 F; pulse 96; respiration 21.

December 7: Weight is 137½ pounds; pulse 90; temperature 99.4 F, and respiration 23.

December 9: 160 cubic inches of nitrogen was injected into the right pleural cavity.

December 15: Weight is 138½ pounds; pulse 92; respiration 22; temperature 99 F. There are dry whistling rhonci over the whole left lung; right pneumothorax perfect. Patient did not appear for examination until March 22. At this time his weight was 148 pounds; his temperature normal. He coughed and expectorated very slightly and only during the early morning hours. The râles have almost entirely disappeared from the right lung, but are still present, as noted on December 15 in the left lung.

March 25: 115 cubic inches of nitrogen was injected into the left pleural cavity. The patient went home immediately after the operation, and has not appeared for examination since.

Case 29.—Mr. O. S., aged 23, was examined Nov. 21, 1898. His family is free from tuberculosis. He has been sick since March, 1898, beginning with a cough and slight expectoration. In August, 1898, he had an attack of hemoptysis (about ½ pint); weight 134 pounds. (Normal 156). There is now considerable cough and expectoration; temperature 100.2 F; pulse 130; respiration 24. There is relative dulness over entire left lung, more particularly over the left lower lobe, but no signs of a cavity. Crepitant râles are heard over the entire left lung. The right lung appears entirely normal.

Dec. 1, 1898: 155 cubic inches of nitrogen was injected into left pleural cavity. There is a perfect pneumothorax.

December 10: Pneumothorax is still quite perfect. Patient has had no night sweats since date of operation. He states his cough has been diminished at least one-third; likewise his respiration; pulse 126; respiration 28; temperature 100.2 F. He has not appeared for further treatment.

Case 30.—Mr. H. M., aged 18, was examined December 2. His family is free from tuberculosis. He began to cough six months ago and was confined to his bed with an attack of some febrile disease which he states was called typhoid fever. He was in bed but two weeks, however. He has coughed considerably since that time, and during the last month the expectoration has been very profuse. Recently he has noticed streaks of blood in his sputum, and has had drenching night sweats during the last three weeks. Weight is 110 pounds; temperature 101 F; pulse 108. He is emaciated and very pale. There is relative dulness over entire right lung, more marked over right upper lobe; marked consolidation over the apex. Vocal fremitus over the right upper lobe is very much increased, and râles are heard over every portion of the right lung. The sputum contains an enormous quantity of bacilli.

December 16: 72 cubic inches of nitrogen was injected into the right pleural cavity.

December 20: Pulse is 100; temperature 100 F; respiration 30.

Jan. 5, 1899: Pulse is 92; respiration 26; temperature 99.4 F; weight 115½ pounds.His color is very much improved. He coughs very little; there is almost no expectoration at this time.

January 6: 80 cubic inches of nitrogen was injected into the right pleural cavity.

January 9: Pulse is 90; temperature 99 F; respiration 26.

January 30: Pulse is 86; temperature 99.4 F; respiration 26; weight 116 pounds. He coughs very little and expectorates about one dram in twenty-four hours. No night sweats; appetite good, and very few râles are audible over the right upper lobe. Patient has been at work during the last two weeks, and has not appeared for treatment since.

Case 31.—Mr. E. R., aged 26, whose father died of tuberculosis, was examined Nov. 21, 1898. In November, 1897, he had an acute attack of pleurisy and began at that time to have a slight cough. In September, 1898, he had an attack of hemoptysis; the second attack one week ago. At present there are occasional streaks of blood in the sputum. Weight is 125 pounds; pulse 120; temperature 102 F; respiration 25. He is emaciated and anemic. There is some retraction of the left clavicular fossa, and dulness over the left upper lobe. The râles over this area are numerous and are both crepitant and mucous. There are some few scattered râles in the left lower lobe. The respiratory excursion is good.

November 22: 120 cubic inches of nitrogen was injected into the left pleural cavity.

December 13: Patient states that during the four or five days immediately following the operation he expectorated very freely. He has had no night sweats, but the afternoon rise of temperature persists; pulse 100; temperature 100 F; respiration 38.

December 16: 140 cubic inches of nitrogen was injected into the left pleural cavity.

December 20: Pulse is 110; respiration 30; temperature 99.2 F. The patient has been at work during the entire time he has been under treatment. He is obliged to work or go to the county institution at Dunning, which, on account of his rapid pulse, I suggested that he do.

Case 32.—Mrs. G., aged 32, was examined Dec. 6, 1898. She began to cough in April, 1898. There is no history of tuberculosis in her family. Soon after the onset of her disease she had a severe attack of dry pleurisy. She has expectorated freely, and two of the physicians who have treated her have discovered tubercle bacilli in her sputum. She is very anemic and considerably emaciated. The chest expansion is generally impaired; there is relative dulness over the left apex, and crepitant râles are heard throughout the greater portion of the left upper lobe. There is a friction rub over the left lung. Pulse is 117; temperature 99 F; respiration 23.

December 9: 95 cubic inches of nitrogen was injected into the left pleural cavity.

December 20: Pulse is 120; respiration 25; temperature 100 F.

January 3: 110 cubic inches of nitrogen was injected into the left pleural cavity.

January 15: Pulse is 100; temperature 99.5; respiration 20.

February 3: 114 cubic inches of nitrogen was injected into the same cavity. Following this operation she was confined to her bed for ten days with influenza, which was epidemic at that time.

March 13: Weight is 111 pounds; temperature 99.5 F; pulse 100; respiration 20. The examination at this time showed that there was considerable fluid in the left pleural cavity and that the lung was compressed to a marked degree, and no further injections were given. She is now progressing slowly; her weight is still 111 pounds. She coughs but little; is pale and has a considerable hydrothorax.

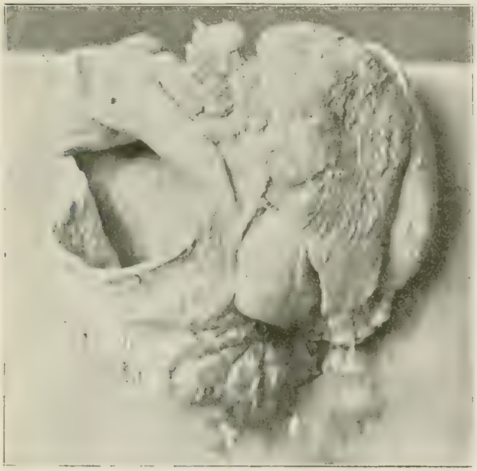


Figure 1.

Case 33.—Mr. C. S., aged 40, was examined Dec. 9, 1898. His wife died recently of pulmonary tuberculosis. His parents are free from tuberculosis, but one brother died of some variety of pulmonary disease. On Sept. 26, 1898, he had a chill followed by fever and since that time he has lost 35 pounds in weight. On September 22, a slight hemoptysis occurred. At present he weighs 161 pounds (normal weight 200); he has some fever during the afternoon and occasional night sweats. He is muscular, well developed and his appearance is anything but tuberculous. His expansion is good, there is no dulness, except over the apex of the left lung posteriorly. The breath-sounds over this area are harsh, and some scattered crepitant râles are heard over the entire left upper lobe posteriorly. His temperature is 99 F; pulse 88; respiration 28.

December 13: 172 cubic inches of nitrogen was injected into the left pleural cavity. There is a perfect pneumothorax.

Jan. 9, 1899: Pulse is 89; temperature 100 F; respiration 24. At this time the patient states that his cough and expectoration have decreased at least one-half, and during the last month he has had no night sweats.

January 10: 172 cubic inches of nitrogen was injected into the left pleural cavity, and the patient returned to his home in Ohio the following day. He has not appeared for treatment since. He presented himself for examination at Columbus, Ohio. He stated that his weight was 172 pounds; that he coughed very little and believed himself well, except for some gastric disturbance. There was comparatively little expectoration; his temperature was normal, and but few scattered crepitant râles were heard over the left upper lobe.

Case 34.—Miss E. V., aged 14, was examined Nov. 20, 1898. Two years ago she had an attack of malaria and shortly afterward some variety of pneumonia. One year ago she began to cough and expectorate, and in July last to have irregular chills, followed by fever during the afternoon. The cough has never abated and she had night sweats, since July, 1898. Two weeks ago her blood was examined for malarial organisms, but with negative results. She is a tall anemic girl, weighing 105 pounds; pulse 110; temperature 102.5 F. There is dulness over the right upper lobe, and many crepitant and mucous râles. Her breathing is of the exaggerated vesicular type over this lobe. The sputum contains a large quantity of tubercle bacilli.

December 3: 100 cubic inches of nitrogen was injected. The pneumothorax was perfect.

December 10: Temperature is 99 F; pulse 110; respiration 25. Patient now coughs very little and expectorates only in the morning on rising.

December 23: Weighs 110 pounds (a gain of 5 pounds in twenty days); temperature 102 F. She feels stronger, is more energetic, and her general appearance is much improved. She was determined that she would take no more injections, and did not appear for her second operation as she was instructed.

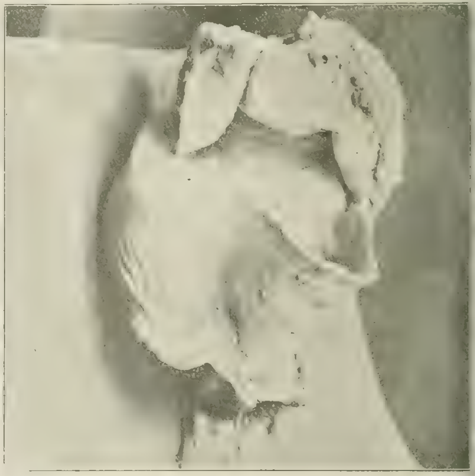


Figure 2.

Case 35.—Mrs. T. C., aged 32, was examined Dec. 15, 1898. Her family history was negative as to tuberculosis. She has had a cough for more than two years, but it has been especially troublesome and associated with alarming symptoms since April last. She has fever and night sweats; her expectoration is profuse and of a greenish color. She weighs 91 pounds. (Normal 113.) During the last six weeks her voice has been impaired, owing to a small tuberculous ulcer. There is dulness over the right upper and middle lobes, with bronchovesicular breathing and crepitant râles. There are a few fine crepitant râles in the left apex, but no dulness; temperature 100 F; pulse 130; respiration 28. There is a small tuberculous ulcer on the left vocal cord.

Dec. 16, 1898: 125 cubic inches of nitrogen was injected into the right pleural cavity.

Jan. 12, 1899: Weight is 96½ pounds (a gain of 5½ pounds). Her voice has materially improved although the ulcer still is present on the vocal cord. Pulse is 100; respiration 24; temperature 100 F. One month later she came to the city again, the operation was to be repeated, but pleural adhesions existed which precluded the possibility of a pneumothorax.

Case 36.—Miss A. P., aged 22, was examined in December, 898. Her mother has had some type of pulmonary disease or years; aside from this her family is not tainted with uberculosis. During the summer of 1897 the patient lost en pounds in weight, but no cough developed until May, 1898. he weighs 131 pounds. (Normal weight 140.) She coughs nd expectorates profusely and has afternoon fever and night weats. Temperature is 101 F; pulse 100; respiration 23.

December 30: 115 cubic inches of nitrogen was injected into he left pleural cavity. There was considerable tendency to yncope for an hour after the operation.

Jan. 30, 1899: The patient feels very much improved. Her eneral appearance is strikingly better; she now weighs 140 ounds (a gain of 9 pounds during the month); she has had o night sweats or fever, so far as she knows. The crepitant âles over the lungs are much less numerous than at the preious examination. The cough is now very slight, and the exectoration does not exceed one dram in twenty-four hours.

February 3: 147 cubic inches of nitrogen was injected into he left pleural cavity. The pneumothorax was perfect. The atient has noticed several segments of a tape-worm in her xcreta, for which she was given Filix mas.

February 16: Patient expelled the tape-worm in toto; pulse 4; respiration 20; temperature 100 F.

February 28: 148 cubic inches of nitrogen was injected into he left pleural cavity. After this operation her cough subided; she had no fever nor night sweats and did not appear or examination until April 9, when her cough was slightly ore troublesome, although her general condition was very uch improved. Scattered crepitant râles were still heard over he left upper lobe. The lung was again compressed. The neumothorax, after an injection of 140 cubic inches of nitrogen, as perfect. Since last injection she has improved gradually; he has not increased further in weight, probably she has eached her normal in this respect. She has not reported durng the last month.

Case 37.—Miss M. M.. aged 23, was examined Feb. 4, 1899. er parents are living and in good health, and as far as she nowns no one in her family is afflicted with tuberculosis. his patient began to cough in February, 1897. She believed his to be an attack of simple bronchitis, although it continued or some time, and she finally recovered entirely and had no uspicion of pulmonary disease until May, 1898, when she began o cough and to lose weight and strength. She had fever, night weats, and noticed in the sputum an occasional admixture f blood. She complains of pains in her right thorax. There s marked dulness over the right upper lobe, bronchovesicular reathing, decidedly prolonged extirpation, crepitant sibilant nd mucous râles. There are some scattered râles over the apex f the right lower lobe, and right middle lobe. The left lung eems entirely negative. She weighs 94 pounds, her pulse is 15; temperature 102 F.; respiration 28.

February 7, 80 cubic inches of nitrogen was injected into the ight pleural cavity. There was considerable pain over the ase of the right thorax for some days after her injection.

February 23: Pulse is 118; temperature 99.5 F.; respiraion 28.

March 2: 90 cubic inches of nitrogen was injected into he right pleural cavity. After this operation she began to mprove rapidly; she gained six pounds in weight during the wo weeks following the operation.

April 1: Weight is 101 pounds; temperature 90 F.; pulse 00; respiration 24. The right upper lobe seemed entirely free rom râles, the breath-sounds seemed harsh and tubular; the iver dulness extended as high as the fourth interspace. There as some retraction of the chest wall. All active symptoms of isease had abated. Her weight was within three pounds of the aximum point. Inasmuch as the pleural cavity was probably bliterated by adhesions and the patient's condition was so romising, she was discharged without further attempts at ompression.

Case 38. Mr. J. M., aged 38, was examined April 9, 1899. is family has been free from tuberculosis for two or three enerations. Eight months ago he developed a slight cough and hortly afterward had three attacks of hemoptysis. The total uantity of blood he estimates at nearly one quart. His eight has diminished from 168 pounds (normal) to 140 pounds. e coughs considerably during the day and during the night; his is a distressing symptom. He has no pain in his thorax; putum contains a moderate quantity of tubercle bacilli. Durng the last two months the expectoration has been very prouse, and he estimates it at three ounces in twenty-four hours. here is a relative dulness over the left lower lobe, and râles are cattered over the greater portion of this area; pulse 120; respiation 23; temperature 98.5 F.

April 11, 1899: 119 cubic inches of nitrogen gas was injected into left pleural cavity. In this case the improvement has been but slight, if there has been any.

May 10: The second injection of 120 cubic inches of nitrogen was given. The patient returned to his home, and as he lives some distance out of the city he has not reported since his last operation.

Case 39.—Mr. J. R., aged about 45, was first seen Oct. 13, 1898. He has had pulmonary disease since 1893, and since that time he has been able to work but six months in the year. In May, 1898, he was advised to change climate, but he felt that he was not improving and returned in September, having lost ten pounds in weight while away from home. When first examined he had been confined to his bed constantly for two months, and he was gradually growing weaker. His family physician told him that unless something could be done immediately he could not live many weeks, and advised, as a last resort, that the compression treatment be given a trial.

Nov. 13, 1898, a careful examination was made. The right upper lobe was dull to percussion; there were signs of cavity in the third interspace anteriorly and râles were heard over the entire lung. The breath-sounds over the upper lobe were tubular, and quite harsh over the right lower lobe. There were scattered râles throughout the left upper lobe, but the expansion of the left lung was good. His pulse was 110; respiration 28; temperature 102 F. The injection was made on the same day, and by the use of considerable pressure 135 cubic inches of nitrogen was forced into the pleural cavity. Ten days after the operation he got out of bed and walked to the market to be weighed. His weight was 104 pounds.

Dec. 23, 1898: a second injection of about the same quantity was given. His cough improved somewhat.

Feb. 24, 1899: He writes that his cough is considerably better, and asks that the treatment be continued. At intervals of four weeks he has had three operations. He now weighs 106 pounds, is out of bed the entire day and able to do considerable walking.

May 24: His pulse is 100; respiration 28; temperature 99 F. The signs of cavity in the right upper lobe have disappeared, there is much fibrosis in the right lung. The patient's general condition is somewhat improved; he is able to be out of doors the greater part of the day; his appetite is now improving and, whereas nothing can be expected in the nature of permanent cure in such a case as this, he promised to improve sufficiently to enable him to live for some time in comparative comfort.

Case 40.—Mr. C. H., aged 38, was examined March 31, 1899. He has been sick one year. His parents are living and in good health at an advanced age. One brother and five sisters are living and healthy. His cough has gradually grown worse in the past year, but was not violent until February 23, when he had a severe attack of hemoptysis, after which he developed a high temperature and for several days after his attack it reached 104.5 F. Pulse is now 110; temperature 102.5 F.; respiration 24; weight 128 pounds. There is considerable retraction of the right chest. He perspires freely, almost continuously. There is only slight respiratory excursion of the right lung, and râles are very numerous over the right upper lobe. Over the right middle and right lower lobes they are comparatively few.

April 4, 1899: 60 cubic inches of nitrogen was injected into the right pleural cavity, with very little discomfort to the patient.

April 28: Weight is 131 pounds. He coughs less and expectorates very little; pulse 100; temperature 99.5 F.; respiration 24.

May 12: Weight is 136.5 pounds (a gain of 8.5 pounds).

May 16: The patient was given another injection of 100 cubic inches of nitrogen gas.

Case 41.—Sister ——, aged 30, was first examined Feb. 8, 1899. She has been sick with pulmonary symptoms for two years. It began with huskiness of the voice. In June, 1897, she began to cough. July 10, she had two or three slight attacks of hemoptysis. Her cough gradually became more harassing, but she did not feel especially alarmed until July, 1898. In January, 1899, she became so much worse that two doctors were called to the convent, who examined her carefully, found that she had an extensive involvement of the left lung, and made an unfavorable prognosis.

On Feb. 6, 1899, an examination of the patient showed relative dulness over the entire left lung, with many coarse mucous and crepitant râles throughout.

February 6: 115 cubic inches of nitrogen was injected into the left pleural cavity. Her temperature at this time was 100.4 F.; weight 127 pounds.

March 9: 130 cubic inches of nitrogen gas was injected into the same side; temperature 99.2 F. She lost some weight after the first injection, the lowest point having been 124 pounds.

April 6: 120 cubic inches of nitrogen gas was injected into the left pleural cavity; weight at this time 127 pounds. Two weeks after this injection she developed a severe intercostal neuralgia. Her temperature remained normal.

May 8: The fourth injection of gas was given. Since that time her temperature has never been above 99, and her weight has increased to 127 pounds. As examination at the time of the last operation showed the left lung markedly improved. There were comparatively few râles. The cough and expectoration have diminished very much, and the doctor in charge of the case has made repeated examinations of the sputum with negative results.

Case 42.—Mrs. A. E., aged 35, was examined Dec. 25, 1898. Her family history is free from tuberculosis. She began to cough in December, 1897. She has had afternoon elevations of temperature and chills. Frequently also, she has had night sweats. In October, 1898, she had two attacks of hemoptysis (about five ounces). Her present weight is about 103 pounds (normal 108 pounds). The expansion of the left thorax is impaired; there is a marked dulness to percussion over the left upper lobe, where many crepitant and mucous râles are heard. There are some scattered râles over the left lower lobe. A few crepitant râles were heard in the right apex, but there was no change of note on percussion. Tubercle bacilli were present in the sputum in large quantities.

December 30: 115 cubic inches of nitrogen injected into the left pleural cavity. There was a short syncopal attack immediately following the operation. Subsequently this patient went to the tuberculosis hospital at Dunning, where she has been given four injections, three and one-half to four weeks apart.

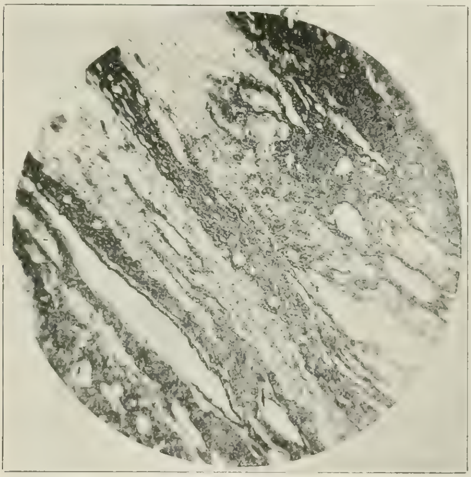


Figure 3.

May 9, 1899: She presents herself for examination. Her color is good; she weighs 106 pounds; coughs very little and only in the morning. She expectorates about one dram in twenty-four hours. She has no night sweats; pulse 84; temperature 99 F.; respiration 28. There is dulness over the left upper lobe. The crepitant râles are very few and scattered here and there over the upper lobe. The crepitant râles heard over the right apex at the time of the original examination are still to be heard, and there are, as yet, no changes in the percussion note in the right lung.

Case 43.—Mrs. J. F., aged 30, had a chill Nov. 1, 1898, and developed a cough associated with considerable expectoration and with pains in the chest. For a year previously she has had occasional attacks of bronchitis. She gives a good family history. Examination, on Dec. 7, 1898, shows a slight relative dulness over the left apex; the excursion of the lung is good; crepitant rales are heard over the upper third of the left upper lobe, anteriorly. At the apex of the left lung expiration is prolonged and high pitched. The examination of the sputum shows the presence of tubercle bacilli in moderate quantities. This patient was injected at intervals of four weeks, for four months, when her subjective symptoms and the physical signs had almost disappeared. She was then advised to change climate and remain away from home for at least a year.

June 17, 1899: She has returned from New Mexico and is, subjectively, in perfect health. There is no cough nor expectoration. On physical examination of the lungs there is nothing to be heard but slightly prolonged expectoratory sound over the left apex. There are no râles.

Case 44.—Mr. W. K., aged 26, was examined Nov. 24, 1898. His family history is good, except that his maternal grandfather died of tuberculosis at the age of 33. He has been sick four years and states that his pulmonary disease followed immediately upon an attack of influenza. He has taken a long course of antitoxin treatment, but has gradually lost in weight until at present he weighs but 137 pounds (normal 145 to 150 pounds). He has considerable shortness of breath, and coughs almost constantly; temperature 99.5 F.; pulse 90. He is moderately emaciated; there is relative dulness over the entire right lung; bronchovesicular breathing over the right upper lobe and numerous râles, both mucous and crepitant, are heard here. His sputum contains considerable quantities of tubercle bacilli.

November 24: 120 cubic inches of nitrogen was injected into the right pleural cavity.

November 28: Temperature is 98 F.; pulse 90. There has been profuse expectoration since the operation, but he has had no fever or night sweats. The operation in this case was repeated at intervals of four weeks. He gained eight pounds in weight; his cough and expectoration diminished but did not disappear. He has not reported since his last operation.

Case 45.—Mr. C. K., aged 33, was examined Dec. 5, 1898. His family is tuberculous. He has been sick one year with a cough, fever and night sweats; no hemoptysis; temperature 101.5 F.; weight 128 pounds (maximum 145 pounds). He expectorates very freely and estimates the quantity expectorated at three ounces in twenty-four hours. His face is flushed; respiration rapid (28 per minute). There is some retraction of the upper right chest. There are no signs of cavity, and the respiratory excursion of the lungs is normal. There are crepitant and mucous râles over the entire right lung, especially numerous over the right upper lobe. The tubercle bacilli are present in the sputum.

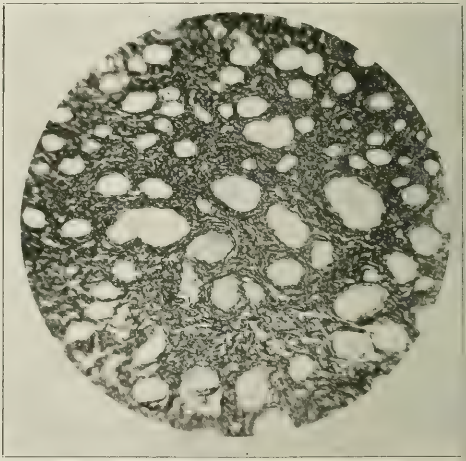


Figure 4.

December 6: 88 cubic inches of nitrogen was injected into the right pleural cavity.

December 9: The patient complains of rheumatic pains in his right leg, it feels weak, his appetite is poor. The pneumothorax is still very marked; pulse 128; temperature 100 F.; respiration 30. On account of his rheumatic pains he was obliged to remain in bed nearly two weeks after his operation. During this time he had a high fever; his temperature frequently reached 104 F.; his pulse was full and rapid, ranging from 120 to 130, and his respiration 32.

February 12: He was still too weak to leave his bed, and inasmuch as the pneumothorax had entirely disappeared, the second operation was made at his home. This time 115 cubic inches of nitrogen was injected. Shortly after his fever began to abate, and with it his pulse improved and he was injected third time on March 10, the same quantity (115 cubic inches) f gas being employed. Two weeks later, upon careful exam ation of the chest, it is discovered that there was a marked uccussion splash. The gas was partially absorbed, but very owly, and the fluid gradually increased in quantity to dis lace the gas. The compression of the right lung had been aintained by the serous effusion, and at the last examination f the patient, on June 1, nothing could be heard over the right ing, but tubular breathing along the inner border of the right capula and a few mucous clicks at the very apex of the right ing. He has gradually gained in weight, from116 pounds (at e time of his second injection) to 134 pounds at the present me. He is now at work, coughs only occasionally and does ot expectorate at all.

Case 46.—Mrs. H. L., aged 24, was examined Oct. 25, 1898. here is no tuberculosis in her family; she began to cough in uly, 1898. During August, the cough increased in severity nd she gradually became emaciated. On October 8, she had wo attacks of hemoptysis (three pints). Since these attacks e has had some elevation of temperature and night sweats; eighs 100 pounds; pulse 100; temperature 98.6 F. There is considerable area of tuberculosis in the right apex.

October 26: 115 cubic inches of nitrogen was injected into e right pleural cavity, and a few days later the patient was nt to Arizona. She has sent no accurate report of her condi on more than that she is very much improved, has gained in eight, but does not state how much, and her cough has en rely disappeared.

Case 47.—Mr. F. L., aged 43, whose family history is not inted with tuberculosis; presented himself for examination n Nov. 15, 1898. He has coughed since May, 1892; has fever uring the afternoon; night sweats and marked dyspnea, which s sometimes paroxysmal, having had numerous typical asth atic attacks. He coughs constantly and expectorates freely; eight 120 pounds; pulse 115; respiration 25; temperature 103 . There is relative dulness over the right upper lobe, and umerous crepitant râles during respiration are heard over he entire right lung. There are dry piping rhonci during ex iration. Over the left apex a few crepitant râles are heard, ut the expiratory dry rhonci are numerous. The sputum has lways been mucopurulent, and now contains tubercle bacilli.

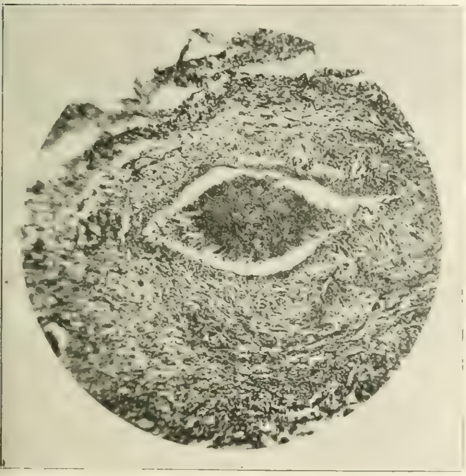


Figure 5.

November 25: 110 cubic inches of nitrogen was injected nto the right pleural cavity.

December 15: Weight is 130 pounds; pulse 100; temperature 8.8 F.; respiration 20. Pneumothorax still exists.

December 22: Pulse is 84; respiration 25; temperature 8.6 F.

December 23: 115 cubic inches of nitrogen was injected.

Jan. 19, 1899: Pneumothorax is still quite marked; pulse 2; respiration 16; temperature 98.6 F.; weight 130 pounds. he patient at this time was advised to go to a more promising limate, and no report has been received since.

Case 48.—Mrs. M. N., aged 40, whose parents are living at n old age, and who had one aunt die of tuberculosis at the age of 45, began to cough in June, 1898. At present she complains of distressing cough, associated with much expectoration, irregular elevations of temperature and occasional night sweats. She weighs at present 105 pounds (normal weight 132 pounds). There is relative dulness in the right upper lobe. Rough breath-sounds and crepitant râles are heard in this area; no signs of cavity. Tubercle bacilli are present in the sputum; pulse 84; respiration 26; temperature 99.5 F.

Dec. 2, 1898: 147 cubic inches of nitrogen was injected into the right pleural cavity, resulting in a perfect pneumothorax.

December 27: She has gained two pounds in weight; coughs as before; temperature (taken in forenoon) 99.6 F.; pulse 80; respirations 20. 165 cubic inches of nitrogen was injected.

January 25: 172 cubic inches of nitrogen was injected, resulting in a perfect pneumothorax.

April 3: Weight is 126 pounds, although she has reached 130 pounds since last injection. She still coughs and expectorates quite freely; temperature 99.5 F.; pulse 90; respiration 23.

April 4: 165 cubic inches of gas was injected. The patient has not appeared for examination since last operation. The most important feature in this case is the marked improvement in the pulse-rate and the temperature.

Case 49.—Mr. J. M., aged 33, had been sick three months when he appeared for examination, Dec. 5, 1898. His wife died of pulmonary tuberculosis in April, 1898. His illness began rather suddenly, with cough, fever and profuse night sweats. His appetite has been poor until recently. He now coughs and expectorates freely; temperature 100 F.; pulse 110. The sputum contains tubercle bacilli. The right apex is retracted. There is relative dulness over the upper half of the right upper lobe. Crepitant râles are heard over this area. Present weight is 155 pounds (normal 157 pounds).

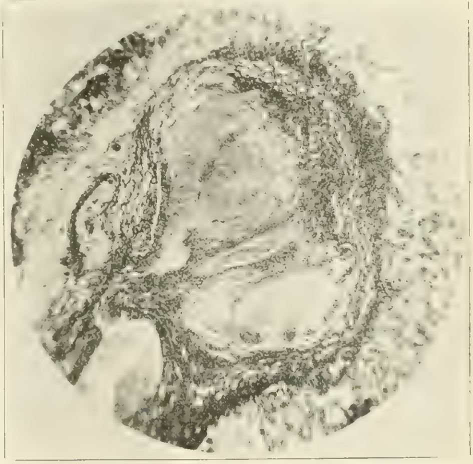


Figure 6.

Dec. 6, 1898: 115 cubic inches of nitrogen injected into the right pleural cavity resulted in a perfect pneumothorax.

December 13: There is still a marked pneumothorax; pulse 90; temperature 98.8 F.; respiration 26.

Jan. 3, 1899: 155 cubic inches of nitrogen was injected; January 28: 186 cubic inches; March 3: 180 cubic inches; April 14: 171 cubic inches.

May 27: Weight is 155 pounds; pulse 91; temperature 99 F.; respiration 18. At this, the last examination, the patient stated that he felt well in every particular; that his appetite was good; that the cough was now very slight and the expectoration noticeable only in the morning. Very few crepitant râles are now heard at the very apex of the lung. An examination of the sputum shows the presence of a few tubercle bacilli.

Case 50.—Mr. P. O., aged 32, whose parents are living and in good health and who has seven healthy brothers and one sister, began to cough in May, 1898. Very soon after the onset of the cough he noticed slight night sweats, with considerable pain in the right chest. He was examined Dec. 5, 1898. There is extensive tubercular infiltration, involving the right upper and right middle lobes. The left lung is negative; pulse 96;

temperature 101 F.; respiration 23. There is bronchovesicular breathing over the right upper and right middle lobes, and râles are heard everywhere over these areas. The sputum contains tubercle bacilli; weight 136 pounds.

Dec. 6, 1898: 88 cubic inches of nitrogen was injected into the right pleural cavity. The pneumothorax was only moderate, but was followed immediately by profuse expectoration.

Jan. 5, 1899: 85 cubic inches of nitrogen was injected into the right pleural cavity.

February 1: a third injection of 80 cubic inches of gas was made. The patient had not improved appreciably; his pulse became more rapid and the injections were discontinued.

Case 51.—Miss D. R., aged 22, was examined Oct. 7, 1898. Her mother died of pulmonary tuberculosis at the age of 36. One sister and brother have died of this disease. On May 17, 1898, she had profuse pulmonary hemorrhage (one pint), after which she developed fever, violent cough and night sweats. June 14, she was sent to the country, where she remained two and one-half months, with some improvement in her pulmonary symptoms, but no gain in weight. She now complains of an annoying cough, attended with considerable expectoration; weight 106 pounds; temperature 100 F.; pulse 115. There is slight relative dulness over the left apex, where numerous crepitant râles are to be heard. The right lung is normal.

Oct. 11, 1898: 110 cubic inches of nitrogen was injected into the left pleural cavity. This was followed by some pain and dyspnea, which, however, disappeared.

Dec. 14: Weight is 111 pounds; temperature 99 F.; pulse 100; respirations 22. Breath-sounds at this time are distinctly audible, and the physical signs in the left apex are still present.

December 15; 100 cubic inches of nitrogen was injected.

April 10: Patient was examined to determine the advisability of a third injection. The physical signs at that time were merely those of relative dulness over the left apex with high-pitched and prolonged expiration, but no râles were heard. She coughed only very slightly, and only in the morning immediately after rising. An examination of the sputum showed an absence of tubercle bacilli, and the injection was not repeated.

Case 52.—Miss N. S., aged 19, was examined Dec. 6, 1898. Her parents are living, and in good health; three sisters and two brothers are in good health. She began to cough in November, 1897. She had chills in the forenoon, a considerable elevation of temperature in the afternoon and night sweats. The expectoration is profuse; tubercle bacilli are present in the sputum; weight 99 pounds (maximum weight 111 pounds). There is considerable emaciation; face flushed; temperature 101 F.; pulse 120; respiration 25. There is considerable retraction of the left thorax and dulness over the entire left lung, with râles equally distributed over both lobes. There are no signs of cavity, but the breath-sounds over the left upper lobe are quite tubular. There are scattered crepitant râles throughout the left upper lobe. In this case the injection was undertaken with much reluctance on account of the extensive involvement.

Dec. 17, 1898: 90 cubic inches of nitrogen, with much pressure, was forced into the pleural cavity. There was considerable pallor and marked dyspnea immediately after operation, and the expectoration was enormously increased.

Jan. 3, 1899: 90 cubic inches of gas was again forced into the left pleural cavity.

February 2: Her weight was 96 pounds (a loss of 3 pounds). There is no improvement except that the expectoration has slightly diminished; temperature 100; pulse 110; respirations 28. The case was discharged.

Case 53.—Mrs. A. S., aged 42, was first examined in October, 1898. One sister died of tuberculosis that was said to have developed after typhoid fever. She began to cough three years ago; she then became pregnant and improved considerably, so that she was quite free from cough until six weeks after parturition, when the cough and expectoration returned and have since persisted. Her normal weight is 197 pounds; at present she weighs 188 pounds; she coughs and expectorates freely for some time after rising in the morning. During the day the cough is less troublesome; she has some fever but no night sweats. Examination shows a large, well-nourished woman of ruddy complexion, pulse 88; temperature 99 F.; respiration 20. Expansion is limited on the left side. There is a relative dulness over the entire left upper lobe and the usual mucous and crepitant râles are heard here. The breath-sounds are roughened. There are a few râles over the left lower lobe; few scattered râles over the right apex. The percussion-note is normal over the entire right lung.

October 10: 150 cubic inches of nitrogen was injected in the left pleural cavity. Much of the gas escaped within the first forty-eight hours after the operation, and the left lung was distended when the patient was examined two weeks later.

November 3: 154 cubic inches of nitrogen was injected; December 31: 160 cubic inches; January 30: 160 cubic inches.

February 26: The patient has not gained in weight, which may be expected, in that she has lost but little and weighs 180 pounds. The râles have almost disappeared over the left upper lobe, she coughs only lightly immediately after rising, and feels much improved generally. She was discharged without further injections because the examination of the sputum showed an absence of tubercle bacilli.

To these cases I am able to add a brief report of cases treated by Dr. C. P. Thomas of Spokane, Wash. May 13, 1899, he writes:

"Inasmuch as I have not kept a close record of the progress made by my cases I do not think they will be of value to you. I can state unhesitatingly, though, that in those cases which I now know to be suitable for the treatment, viz., those in which but one lung is involved, and in it there is a cavity without too many adhesions, it has proven most satisfactory. In that class of cases numbering six, two are considered cured, each having gained over 20 pounds. The other four, still on treatment, are steadily gaining. In every case the temperature, cough and expectoration, and in two in which there was hemoptysis, the symptoms have at once disappeared, either in part or in whole."

We have never had an opportunity to attempt to check pulmonary hemorrhage by injecting nitrogen into the pleural cavity to compress the lung, but it would seem that this were a rational procedure.

About twelve cases have been injected whose histories I have been unable to obtain. The results in all of them have been quite uniform in many respects. It it always to be expected, no matter what be the stage of the disease, or its extent in the lung, that the injection is nearly always followed by an increase of expectoration for a few days immediately following the operation. In the earlier cases, where the disease is limited to the apex, and where the expectoration has always been slight, this does not apply. It is remarkable what a fall in temperature is often to be noted, even during the first day after the lung is compressed. The dyspnea is never severe, and usually disappears within an hour or two after the operation. A subcutaneous cellular emphysema may become troublesome when the dressing is not properly applied, the gas being expelled into the subcutaneous cellular tissue during the efforts at coughing.

I shall refer now to the accidents that have occured in connection with our work. Case 17 is particularly interesting and instructive in this connection, inasmuch as it is the only case in which an accident of any gravity has occurred. How shall we account for the hemiplegia that developed in this case? Many theories have been framed to explain such an occurrence in connection with operations on the thorax. Many cases are reported in the literature, but no explanation is offered for the specific instances. The most important theories are: 1, the reflex theory; 2, the gas-embolism theory. Janeway[10] reports a case in which two attacks of temporary hemiplegia occurred in the same individual as the result of the use of hydrogen peroxid in a sacculated pleural empyema. He cites a case published by Leudet in 1888, in which hemiplegia occurred in a patient whose empyema cavity was being irrigated with a solution of iodin. In this case, there was no loss of consciousness. Janeway believes these accidents to be best explained by supposing the hemiplegia to be due to a gas embolism.

In another case, whose history I was not able to obtain, a profuse hemorrhage occurred immediately after he introduction of the needle and before the tube that onducts the gas had been attached. This hemorrhage vas undoubtedly due to a rupture of some vessel, posibly in the wall of a large cavity that existed in his eft upper lobe. He had had repeated attacks of hemptysis, and all of them had been profuse. The needle vas inserted to a distance of approximately 2 cm., and t is scarcely possible that a vessel of sufficient size could have been wounded to bleed so profusely, as did this patient. It was indeed a case of pulmonary apoplexy.

We have had an opportunity in but a single case to tudy the pathologic changes that are found in tubercuous lungs that have been for some time subjected to pressure. Comparatively little is to be found in medcal literature relative to this. Rokitansky[11] observed hat after long-continued compression of a lung, a cerain degree of fibrosis developed in it. According to Cornil and Ravier[12] the change consists principally of n edema and an exfoliation of epithelial cells. Dunin[13] quotes Herz[14], who is brief on the subject and merely tates that our knowledge of the changes that occur in he lung as a result of pressure is meager, and that it has not been proven that alveoli are permanently obiterated by adhesions of their walls. Dunin made a areful study of the changes that occur in animals' ungs that he collapsed by injecting air, or by exciting n inflammatory change in the pleura that was attended with serous or purulent exudation. He did not suceed in maintaining a compression of the lung for a reat length of time. On microscopic examination of a ung that had been collapsed six hours, the alveoli were ound compressed, the capillaries in the alveolar walls were quite empty and no red cells were found in the nterior of alveoli. The large vessels were well filled with blood. The epithelium was intact. In the oposite emphysematous lung the vessels in the alveolar walls were distended with blood. In the lungs that have een compressed for a longer time bands of connective issue began to develop about some of the bronchi and lso around some of the larger vessels. Alveoli are not ermanently obliterated, unless compression has coninued a long time—no time limit given—or unless inlammatory changes supervene. The development of onnective tissue is due to slight infection, the stimulus of which is not destructive, but productive, or to altered nutrition of th eareas. The mucus in these bronchi always contains some micro-organisms. Dunin concludes that when a lung that has been long compressed loses its distensibility it is due largely to a thickened pleura and in a measure to the fibrosis.

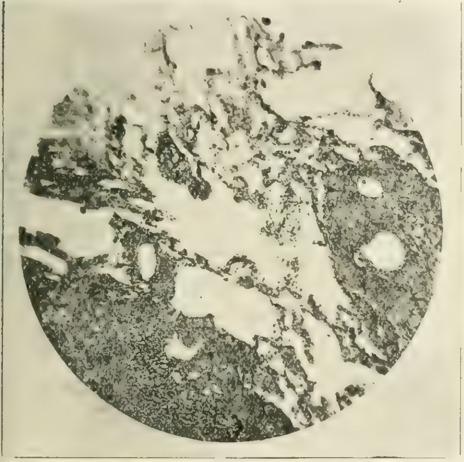
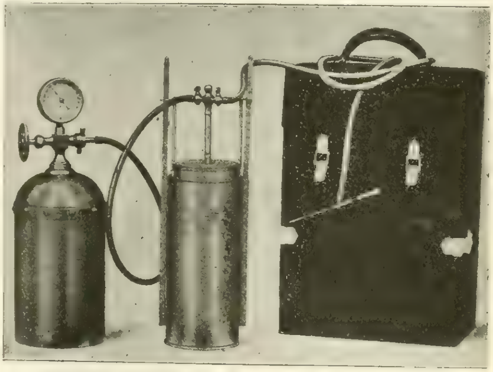


Figure 7.

In a tuberculous lung under ordinary conditions, i. e., one not subjected to pressure, the healthy lung tissue in the immediate vicinity of the tuberculous foci frequently becomes atelectatic, as the result of compression of a small bronchial tube, the structures become edematous, owing to a passive hyperemia, the epithelia undergo fatty degeneration and are desquamated, the septa thus robbed of their covering become adherent and finally are transformed into connective-tissue bundles which surround the diseased areas[15]. In a tuberculous lung subjected to long-continued pressure, this is likewise true, and these circumscribing cicatrizing processes proceed more readily.

In the case we have studied, with a view to determine the histologic changes due to compression, the lung was removed from a patient who had been treated for pulmonary tuberculosis at the Dunning institution. He had extensive tuberculosis in both lungs, but at the time of the first operation the disease was principally in the right upper lobe. The right pleural cavity was injected in May, 1898, after which he gained 10 pounds in weight. Early in October the left pleural cavity was injected. An examination record made Dec. 17, 1898, proves that no empyema existed at that time. After his last operation this patient was given a pass and was absent from the hospital a considerable portion of the time. May 8, 1899, a pneumothorax developed on the left side, and the patient died very suddenly. The necropsy disclosed an enormous empyema on the right side. There was an extensive tuberculosis of the left upper lobe, and the upper part of the lobe was honeycombed with cavities, the largest of which is the size of a walnut. The trachea, both lungs, the empyema sac, and the heart were removed in toto and photographed. (See Figs. 1 and 2.)



The above is a cut showing the apparatus which I use to inject nitrogen into the pleural cavity. It is manufactured by the Chicago Oxygen Gas Co.

The right lung is not visible in the figure. It is crowded upward and backward toward the hilum, and is scarcely as large as the hand. The upper and middle lobes are completely airless, but the lower lobe, in spite of the marked degree of compression, crepitates slightly. Many linear scars are visible throughout the upper lobe, marking the sites of obliterated cavities.

Some few of the larger cavities are not yet completely obliterated organically, but their walls are everywhere in apposition. There is an extreme degree of fibrosis in the upper lobe, and the pleura forming the wall of the empyema sac is 4 to 5 mm. thick. The pleura pulmonalis covering the posterior surface of the lung did not enter into the formation of the empyema sac, and is not so thick (from 1 to 2 mm.). Pieces of tissue from the fibrous area have been imbedded, sectioned and stained after Van Giesen's method to show the distribution of the connective tissue; others are stained with carbolthionin, saffranin, hematoxylin and eosin. The acid fuchsin has dyed every fiber of mature connective tissue beautifully and plainly. In some areas great ribbon-like bands of connective tissue pass across a whole field and even across the entire section. Some of these bands encircle a bronchus and others are intimately connected with the larger vessels. Areas of alveoli in which no tubercular or caseous foci are found, occupy the spaces between the bands of connective tissues. Most of these are collapsed. (See Fig. 3.). Sections made from tissue removed from the apex show a very peculiar honeycombed appearance. (Fig. 4.) The spaces, the cut ends of dilated bronchioles, are separated from each other by thick bands of connective tissue in which the fibers are arranged so as to encircle the tubes, but at the same time the fibers at some distance from the lumen intertwine with similarly arranged fibers of the neighboring bands. There are large and small caseous masses, but all are surrounded by thick walls of connective tissue. (Figs. 5 and 6.) In Fig. 6 fine bundles of connective-tissue fibers are seen to pass in the caseous areas and even in the very centers of some of these foci fine fibrils are visible. It is quite evident that contraction of these capsules of connective tissue, which is the inevitable result, must give rise to complete necrosis of the enclosed masses if this has not already taken place. In spite of the prolonged intense compression which has resulted in obliterating the great mass of alveoli some of these structures appear to be wide open. Fig. 7 shows a field in the same section with Fig. 3, in which are seen cross-sections of vessels surrounded by fibrous tissue and in the same field with them are open alveoli.

I desire, in this way, to express my appreciation for the support and encouragement in this work that I have received from Dr. Murphy, and to thank him for having referred to me the cases that make up the greater portion of this report.

Since the original report was prepared about 40 cases have been injected, with results that are on the whole very gratifying. These will be reported in detail later.

I have been asked repeatedly as to the effect of compression of one lung on the opposite in instances of bilateral lesions. In answer I would say that whereas cases of bilateral pulmonary tuberculosis are not as favorable for recovery, no matter what treatment be instituted, as is true of unilateral involvement, yet they should not contraindicate compression of the lung more advanced in the disease. That the disease in the functionating lung shows any special tendency to heal under such conditions, I am not prepared to say. Compression of one lung does not tax the other to any considerable extent, and the improvement of the general condition of the patient may effect favorably the disease in the active lung, provided it be not too extensive.

BIBLIOGRAPHY.

1. Hughes: London Medical Gazette, 1844. From Fowler and Godlee, "Diseases of the Lungs," 1898, p. 682.
2. Fütterer, G.: A New Method of Treating Pneumothorax. Medicine, 1896, 2, pp. 474-480.
3. Murphy, J. B.: Surgery of the Lung, Jour. Am. Med. Ass'n, July 23 to Aug. 13, 1898.
4. Eichhorst: Cbl. f. Schweizer Aerzte, 1895, pp. 385-389.
5. Otis, E. A.: Hospitals and Sanitoria for Consumptives Abroad.
6. Tidey. S.: On the Mechanical Support of the Lung in Phthisis. British Medical Journal. 1896, p. 721.
7. Unverich: Verhandlungen des Congresses f. Innere Medicin, Wiesbaden, 1896, 14, p. 495 to 499.
8. Loomis, H. P.: Medical Record, 1898, pp. 721-728.
9. Weil and Thoma: Virchow's Archiv. 1879, 75, p. 483.
10. Janeway: Transactions of the Ass'n of American Physicians, Vol. xiii, 1898, p. 87.
11. Rokitansky: Lehrbuch der Patholog. Anat. 1861.
12. Cornil et Ranvier; Manual d'Histologie Pathologique, 2d Ed., Vol. ii, 1882.
13. Dunin: Virchow's Archiv. Vol. cii, p. 323.
14. Herz: v. Ziemssen's Handbuch der Speciellen Pathologie u. Therapie, Bd. i, 1887.
15. Birch-Hirschfeld: Pathologische Anatomie, 1894, Bd. ii, erste Hälfte, p. 533.
16. Spath: Wurtemb, Cspdbl. Bd. lviii, No. 14.
17. Sackur: Zeitschrift fur Klinische Medicin, 1896, Bd. xxx, p. 1.

DISCUSSION ON PAPERS OF DRS. HOLMES, M'CONNELL, AMBLER AND LEMKE.

Dr. Carrol E. Edson, Denver, Colo.—No one can deny the great importance of the subject of tuberculosis. The papers are all very interesting and carry with them facts and statements worthy of consideration. Dr. McConnell's paper can not be too strongly emphasized. Those of us who live at high altitudes are most deeply impressed with the importance of an early diagnosis. We see the importance of it as you do not; we see and know the results and sign the death certificates. The early stages of tuberculosis are not those of cavities, or of beginning cavities, or of breaking down. It is long before that. The early stages of tuberculosis date back six months before it is recognized, i. e., in the average cases. I can, without hesitancy, say that in more than one-half the cases that come to me suspicious symptoms had arisen six months before medical advice was given. The early stages of tuberculosis are those of general infection and general depression of health and not the local signs in the lungs. When a patient, without obvious cause, begins to lose weight and energy and "snap" and appetite, and feels "below par" and comes to the general practitioner, then he should think that it may be the beginning of tuberculosis. Tuberculosis first shows itself as a general debility. Watch the temperature of your patient who has general debility. If there be a slight rise in temperature, and creeping sensations, do not tell him he has malaria. During the past year nearly one-third of the patients I have seen in Denver have come with the history that some time before they "had had malaria." They give the history that for a month or two months they have been treated with quinin for a mild chronic malaria. If there is one disease in which we can make a definite diagnosis it is malaria. Do not treat for malaria your tuberculosis cases. Watch for beginning chills. Do not send advanced cases or those with pneumonia consolidations to high altitudes; they do not do well and they must be sent back.

Dr. Chas. L. Minor, Asheville, N. C.—I wish to thank Dr. Edson for his most excellent remarks; one who sees much of this class of work has frequent occasion to see how many errors of diagnosis are made in early cases and is glad to see the facts dwelt on so clearly. I, myself, would like to say a few words on the question of prophylaxis; we are all interested in the cure of this trouble, but if the present death-rate from consumption is to be materially lessened it is to prophylaxis we must turn our attention. The profession is at last coming to realize that the rational treatment of this disease is the hygienic and dietetic, but if these same measures were put into service not only after the trouble has appeared but beforehand, if they were used in the chlorotic, in the dyspeptic, in the overworked, in those burdened with a bad heredity and, indeed, even in the apparently robust, we would begin to see results in the wiping out of consumption that we now only dream of. How many of your patients understand what it is to properly ventilate their houses in the day, not to mention the night; how many appreciate the health giving powers of sunlight; how many use their lungs to the full? According to my experience, not only in the tubercular but in the healthy, not one in twenty and, yet how many doctors take the time and trouble to teach families the care for these things or, I may add, practice them themselves? How many content themselves with treating disease when it develops and never think of warding it off before it appears? In a country like ours, where too few have a real belief in the virtues of fresh air and live in stuffy, ill-ventilated houses all winter, in a land where bad digestion is the rule

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[1] Dr. C. P. Ambler's paper appeared in the Journal of July 8.

and not the exception, what can we expect but an unduly large percentage will sooner or later fall victims to this disease? All this can be changed if we doctors will realize our duty as the teachers of the public, and never cease drilling into them the principles of pulmonary hygiene.

In conclusion, I would like to thank Dr. Ambler for his paper, I am glad to see one man who uses serum not a fanatic on the subject and not claiming every virtue and no defects in the article. A mild skeptic myself, yet open to conviction, I believe I get fully as good results from climate and hygiene, but if all users of serum were as judicial as the Doctor, we might hope before many years to be able to form some definite conclusions as to its value and at last leave behind the present purely experimental stage.

Dr. Allen of Missouri—I was particularly interested in the remarks of the last two speakers in reference to early diagnosis. I regard the weekly examination as very important, made with the microscope; this I consider the only true way to make a diagnosis. But one must first qualify before he can make a diagnosis with the microscope. Up to 1894 I used the general treatment with creosote, hypophosphites, strychnin, quinin and tonics, and they improved a little. In 1894 I began a combination of these things administered *judiciously.* All men can not take creosote, or opium or cod-liver oil. In cases with chronic ulceration of the duodenum they can not take these things and so I combined with the serum and, in seven cases, when I began this combined treatment, at the end of thirty days there was a decided improvement in every one. In three cases there were no bacilli to be found at the end of three months; one of these cases was extremely refractory. Three of the cases were far advanced and I had given the opinion that they could not be cured, but they all improved. So I am decided in favor of the use of the serum in combination with the judicious use of certain drugs, given as the conditions call for. We must individualize.

Regarding Dr. Murphy's treatment, compression lessens the amount of nutrition sent to the lung, by lessening the *vis medicatrix naturae.* I can understand how this pressure may be beneficial. I expect you to treat these cases from time to time, yet you can not expect us to send to you our cases; they must stay at home, where we must do something. What do you mean by climate? You speak of sunshine: why sunshine? I am inclined to be somewhat skeptical in regard to this matter when we see so many handsome ladies and gentlemen in these same climates.

Dr. J. F. McConnell, Las Cruces, N. M.—I am sure we are all greatly pleased with the discussion which has followed the reading of the papers; this should result in great advantage to all of us. In regard to the climatic conditions, what I endeavored to show in my paper was, that in the early stages (pretubercular period) one should try to convert a hypotrophic constitution into an orthotrophic one, rather than wait for positive evidences of infection. If anything be superior it is good environment. In regard to dryness, Beaugarde stated that the tubercle bacilli could not live without moisture; so dry air tends to destroy, while moist air tends to nourish the bacilli. I am greatly indebted to Dr. Edson for the emphasis he placed on certain points in my paper, and also to the other gentlemen for the various points made in regard to the serumtherapy. In the early diagnosis I use the iodid of potassium in very small doses, and I often get surprising results, especially in the stethoscopic examinations. In auscultation, I find, after giving small doses of this drug, evidences of inflammatory conditions, which previously were absent. So this is an invaluable aid. I have frequently found that I could make a positive diagnosis of tuberculosis after the use of iodid of potassium, which I could not do before the administration of this drug.

In conclusion I would like to particularly emphasize the fact that an early diagnosis and the prompt placing of the patient amid suitable environment, will in the majority of instances, ensure a successful result. Try New Mexico.

Dr. C. P. Ambler, Asheville, N. C.—I have but a few words to add. I do not want the impression left that I depended on serum in the large number of cases I reported. I did not give serum the preference. In the early stages bacilli are not found in the sputum. There was a time, and not many years ago, when we recognized tuberculosis by finding bacilli in the sputum, and we called *that* the early stage of tuberculosis. I think that time has passed. If we are now going to make a diagnosis only by the presence of bacilli in the sputum, we are going to fail in the treatment of a great may cases. The diagnosis is not difficult. Another means, not absolute, yet considered fairly certain, is the temperature record, taken, not once or twice a day, but once every two or three hours for days. If the temperature is 1 or 1.5 degrees higher at night, find out why this variation in temperature exists. Again, do not try to examine patients through three or four thicknesses of clothing. Fully three-fifths of our patients have not been examined; the women will not allow it and the doctor fails to make thorough examination. Examine your cases carefully. Make a temperature record, and learn if there is any variation. If there is any consolidation at the apex, find out what it means. If you find a slight consolidation and a temperature record that varies, with a family history bad, do not put your patient on treatment for malaria.

I believe that climate means fresh air and sunshine. Many cases we can not send to North Carolina or Colorado; but we can give our patients fresh air and sunshine. The good results obtained by climatic change are often due to the fact that the patient is away from his work, resulting in less overexertion and less exhaustion.

Dr. A. Mansfield Holmes, Denver, Colo.—The question of serumtherapy is one which is attracting the attention of the profession. In my experience with this treatment, covering a period of two years, I have been gratified with the results obtained, especially in the early stage cases. I wish to state, however, that all other means of treatment should be used in conjunction, as climatic, hygienic, aids to nutrition, lung gymnastics, etc. It is a well-recognized fact that results must eventually decide the merits of any treatment.

Dr. A. F. Lemke, Chicago—Dr. Murphy's method of treatment may do good by diminution of nutrition by compression. A certain physician quoted in my paper believes that the compression of the lung produces hyperemia and edema of the lung, which are inimical to tuberculosis. This calls to mind the fact that tuberculous patients who develop mitral stenosis are said, frequently, to show a marked tendency to a healing of the tuberculous lungs. I believe that compression of the lung tends to produce anemia of the organ and favor the growth of connective tissue. Healthy tissues are protected because the avenues of infection are cut off. The diseased areas are in an anemic state as a result of the compression, and this enhances the development of fibrosis and cicatrization.

I am glad to hear so much about climate. Every method of treating tuberculosis may have its advantages. Dr. S. A. Knopf, New York City, claims that climate at home is as good as climate at a distance. He believes that patients, when treated at home recover from the disease, there is less tendency to a recurrence than is the case when the cure is affected in a distant climate.

No one doubts that serumtherapy is to be looked on with hope. I employ all methods of treatment so far as applicable to individual cases. The medicine I consider of greatest value, is cod-liver oil, which certainly is used extensively and probably gives more satisfactory results than any other medicinal remedy. The pleural cavity may be filled with nitrogen, air, or any innocuous substance. We use nitrogen because it is retained longer. When two quarts or more of the gas are injected into a pleural cavity, the lung will be compressed from three to four weeks and sometimes longer. After the first or second injection the absorption goes on even more slowly.

Therapeutics.

Pruritus.

The external treatment of pruritus is of great importance, and indeed essential, in all cases. As a rule, lotions are most satisfactory, although in some patients the itching seems to be due to a lack of oiliness of the skin, and in this latter class ointments, even of an extremely negative character, often give relief. The most commonly prescribed local remedial agent is carbolic acid; this is usually applied in the form of a lotion, as follows:

℞. Acidi carbolici..........................ʒi-ʒiii
Glycerini ....ʒii
Alcohol ....℥i
Aquæ, q. s. ad..............................Oi
M.

Or, and more especially in the local varieties of pruritus, with an ointment or oil, from 5 to 20 grains to the ounce of petrolatum or rose-water ointment or liquid petrolatum. Thymol is another valuable application, used as an ointment, from 5 to 20 grains to the ounce, or as a lotion, from 16 to 32 grains to the pint of water, with sufficient alcohol and glycerin for its solution. Resorcin is also valuable as a wash, from 5 to 20 grains to the ounce, with a few minims of glycerin and alcohol. Liquor carbonis detergens, with from 3 to 20 parts of water; and liquor picis alkalinus, from 1 to 3 drams to the pint of water, are both of service in some cases. Alkaline baths, with from 1 to 4 ounces of sodium carbonate, bicarbonate or biborate to 30 gallons of water, in which the patient lies for from ten to thirty minutes, are not infrequently useful; after the bath the patient taps the skin dry with a soft towel, and applies a small quantity of solid or liquid petrolatum, plain or medicated as may seem to be demanded; following this a dusting powder of starch, daily or every two or three days. In place of the bath, alkaline lotions containing one of the several alkalies named, of the strength of from ½ grain to 2 grains to the ounce may be used, also to be followed up with an oily application. A compound lotion, such as the following, although smacking strongly of polypharmacy, has acted well in some cases.

R.	Acidi carbolici	ʒii
	Thymol	gr. xvi
	Resorcini	ʒii
	Sodii biboratis	ʒss
	Glycerini	ʒii
	Alcohol	℥ii
	Aquæ, q. s., ad	Oi

In some instances acid lotions seem to act well, consisting of 1 part of ordinary vinegar to 5 or 10 parts of water, or of acetic acid 1 part to from 10 to 20 parts of water. In other cases the free use of a dusting-powder alone seems to protect the skin from the air, and in this manner probably gives relief; these applications may also be used as supplementary to lotions.—*Henry W. Stelwagon, in "An American Text-Book of Therapeutics."*

Influenza.

The catarrhal element of influenza is very constant. Catarrh of the nasal, buccal, pharyngeal, and laryngeal mucous membrane in most cases requires no special attention. The supraorbital pain so often resulting from catarrh extending to the frontal sinus, it is said, may promptly be relieved by pencilling the nasal mucous membrane with a 5 or 10 per cent. solution of cocain. For acute catarrhal pharyngitis, gargles, sprays, and washes containing borax, boric acid, potassium chlorate, etc., are most useful; for example:

℞.	Acidi carbolici	gr. xii
	Sodii boratis	ʒii
	Sodii bicarbonatis	ʒi
	Glycerini	℥ss
	Aquæ rosæ, q.s. ad	℥viii

M. Sig. Use as a gargle, spray or wash.

INFLUENZA WITH BRONCHIAL CATARRH.

The bronchial catarrh—which however, may be absent—demands simple treatment medicinally. As a rule, cough syrups are inadvisable, as they tend to nauseate and to increase anorexia. A simple syrup that may prove useful is the following:

℞.	Morphinæ sulphatis	gr. ss
	Syrupi scillæ	ʒii
	Syrupi lactucarii	℥ss
	Aquæ	ʒvi

M. Sig. A teaspoonful every second, third or fourth hour.

WITH SEVERE BRONCHITIS.

When bronchitis is pronounced, more stimulating agents will be required. Ammonium chlorid in varying combination will act with much advantage; thus:

R	Ammonii chloridi.	ʒi
	Misturæ glycyrrhizæ comp	℥vi

M. Sig. A tablespoonful every third or fourth hour.

Counterirritation should always be practiced. Sinapisms applied over many areas are useful, but the best results are afforded by turpentin, applied as stupes or, warm, upon flannel. Blistering can hardly be required. In most cases of influenza the bronchitis is mild and does not involve the smallest bronchial tubes.—*I. E. Atkinson in "Wilson's Text Book of Applied Therapeutics."*

INFLUENZA WITH NAUSEA.

If nausea be present and cough troublesome, but the bronchitis not severe, the following combination is often effective:

℞.	Morphinæ sulphatis	gr. ss
	Acidi hydrocyanici diluti	m. viii
	Spiritus chloroformi	ʒiss
	Aquæ menthæ virid, ad	℥iss

M. Sig. A teaspoonful every third or fourth hour.

Cinnamic Acid in Tuberculosis.

S. Bernheim, in a communication to a recent congress, confirmed the efficacy of sodium cinnamate in tuberculous affections announced by Prof. A. Landerer of Stuttgart, as reported in the JOURNAL of February 18, 1899, p. 370. He also confirmed the mechanism of its action, the hyperleucocytosis, increase in polynuclear leucocytes and eosinophiles and the inflammatory process around the tuberculous foci, terminating in the production of connective tissue. The results in 284 observations during several years prove that cinnamic acid and its derivatives are capable of energetically influencing tuberculosis, while perfectly harmless. This action can be followed *de visu* in the surgical forms. He advises commencing with injections of a tenth of a milligram, increasing gradually to fifty milligrams.

Inconveniences of Orthoform.

Six new cases have recently been added to the two on record, in which the application of orthoform to an ulcer on the leg aggravated the morbid process and led to gangrene, only arrested by suspending the drug. It is curious that this result has been experienced only with ulcers of the leg; the orthoform probably combines with the alkaline secretions of the lesion to form a toxic compound. Another disadvantage signalled is that as the orthoform arrests the pain, the subjects are satisfied and do not try to heal the ulcer, grudging the necessary repose. In one case the subject knowingly aggravated the lesion by the constant application of orthoform to prevent pain. Daily changing of the dressings moistened with a solution of boric acid and removing all vestiges of powder from the last application, is Luxenburger's method of using orthoform, and he has found it invariably effective and harmless in over three hundred cases treated, among them an amputation for senile gangrene, which healed under orthoform without the necrosis of any portion of the skin flap.

To Prevent Intoxication From Extractum Filicis Maris Aethereum.

Professor Grawitz has observed a number of cases of icterus, gastro-intestinal catarrh, renal and liver troubles consecutive to the use of this remedy for tapeworm, and, in a communication to the *Muench. Med. Woch.*, of September 18, warns against its use by anemic persons, or when any special organ is affected, as predisposing to intoxication. The twenty-gram doses of old days have been abandoned and eight to ten grams for adults and half this for children over 6 years is now the usual dose. It should never be administered with oil as a vehicle or purgative, as the oil favors its absorption. Grawitz also advises against "preparing the patient" by reducing the amount of food and taking the extract on an empty stomach. The morning of the cure the patient takes Carlsbad or sulphate of magnesia, and, after it has operated, the remedy is taken with coffee. He has had a hundred consecutive cases without a single accident, and negative results have been extremely rare.

Snuff in Acute Coryza.

℞.	Bismuthi subnitratis	ʒi
	Pulv. camphoræ	gr. x
	Pulv. acidi borici	gr. xxx
	Morphinæ hydrochloratis	gr. i
	Cocainæ hydrochloratis	gr. i
	Pulv. benzoin	gr. xv

M. Great care should be taken in the administration of this snuff, since its frequent use may easily induce the cocain habit. —*Capitan*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Journal of Nervous and Mental Diseases, October.

1.—*Facial Paralysis, Congenital, Unilateral, and Unique Distribution. F. W. Langdon.
2.—*Case of Cerebral Hemorrhagic Pachymeningitis with Pseudobulbar Palsy. Chas. W. Burr and D. J. McCarthy.
3.—*Sensorimotor Palsies of Musculature of Face, with Remarks on Ocular Palsies of Early Stages of Tabes. Joseph Fraenkel.

Bulletin of the American Academy of Medicine (Easton, Pa.), October.

4.—*A Profitable Medical Education. Henry O. Walker.
5.— Elective System in Medical Education. John M. Dodson.
6.— Medical Education in the South. G. C. Savage.

Post-Graduate (N. Y.), October.

7.— Food Value of Vitos Compared with Wheat Bread. William H. Porter.
8.—Surgical Notes. Theodore Dunham.

Chicago Clinic, September.

9.— Cesarean Section. A. S. Waiss.
10.— Management of Placenta Previa, with Report of Cases. F B. Earle.
11.— Epilepsy in its Forensic Aspect. Albrecht Heym.
12.— Some Reflections on Varicose Veins. W. T. Eckley.
13.— Streptococcus Infection Following Lobar Pneumonia. Cassius C. Rogers.
14.—*Post-Operative Treatment of Hemorrhoids. J. R. Pennington.
15.— Treatment of Constipation. Jos. M. Matthews.

University Medical Magazine (Philadelphia), October.

16.— A Case of Unilateral Ophthalmoplegia. James Hendrie Lloyd.
17.—*Diagnosis of Mitral Stenosis. A. A. Stevens.
18.— Case of Myelitis Following Influenza. Chas. S. Potts.
19.— Technic of Operation of Celiotomy as Practised at the University Hospital, and Report of 137 Consecutive Celiotomies Performed at the University and Gynecean Hospitals, with Three Deaths. Henry D. Beyea.
20.—*Clinical Estimation of Quantity of Hemoglobin in Human Blood. Thomas J. Yarrow, Jr., and Arthur P. Hitchens.

St. Louis Clinque, October.

21.— Progress of Medicine and Surgery in the Last Decade. W. S. Wiatt.
22.— Progress in Chemistry. C. W. Lillie.
23.— Constipation. G. Howard Thompson.

Medical Bulletin (Philadelphia), October.

24.— Lupus Vulgaris. John V. Shoemaker.
25.— Primary Tuberculous Periostitis of the Margin of the Orbit. C. Mazet.
26.— The Paranoia of Pubescence, or Hebephrenia, with Report of a Case. H. Brooker Mills.

Bulletin of Cleveland General Hospital, July.

27.— Case of Glanders. Martin Friedrich.
28.—*Albuminuria of Pregnancy, with Report of Cases. R. E. Skeel.
29.—*Original Method of Preserving Tissues Whereby the Natural Color is Retained. Frederick Y. Allen.
30.— Three Interesting Cases of Malignant Disease. Morris D. Stepp.
31.— Palliative Treatment of Carcinoma of Cervix Uteri, with Report of Two Cases. Lillian G Towslee.
32.—*Frontal Sinusitis and Otitis Media Complicating Influenza. Norman C. Yarian.
33.— Uses and Dangers of Atropin in Treatment of Diseases of the Eye. Edward S. Lauder.

Canadian Practitioner and Review (Toronto, October.

34.— Infant Feeding and Infantile Diarrhea. J. T. Fotheringham.
35.— The Politzer and Gruber Clinics. John P. Morton.

Denver Medical Times, October.

36.—*Experience with the Bottini Operation in Hypertrophy of the Prostate. Leonard Freeman.
37.— Hemoglobinuria: Report of Two Cases: Recovery; Remarks on Treatment. Lewis B. Brasher.
38.—*Hemophilia, with Report of Two Cases. A. A. Kerr.
39.—*Treatment of Acute Conjunctivitis. Edward Jackson.
40.—*Some Valuable Points in Eye Work. Robert F. LeMond.
41.—*Ocular Prothesis. Melville Black.
42.—*Hydatidiform Mole. Sol G. Kahn.

Medicine (Detroit, Mich.), October.

43.—*Drugs in Cardiac Insufficiency. O. T. Osborne.
44.— Penetrating Wounds of the Chest. J. B. Murfree.
45.—*New Departure in Medical Society Work: The Pathologic Department of the Indiana State Medical Society. Frank B. Wynn.
46.—*Ectopic Pregnancy. J. W. Long.
47.—*Etiology of Eclampsia. Charles B. Reed.

Texas Medical News (Austin), October.

48.— Some Recent Cases of Appendicitis. T. J. Bennett.

Memphis Medical Monthly, October.

49.— Present Status of Medicine. Clinical Experience vs. Laboratory Research. Frank A. Jones.
50.— Remarkable Case of Autohypnosis. E. H. Martin.
51.— Neurasthenia. Frank B. Turner.
52.— Welcher's Position with Report of Case. Alfred Moore.
53.— Case of Disseminated Insular Sclerosis. Wm. Krauss.
54.— Case of Chronic Gleet of Seven Years' Standing Cured in Two Weeks by Injection of Potassium Permanganate. Edwin Williams.
55.— Phantom Tumor. Louise Drouillard.

Archives of Ophthalmology (N. Y.), September.

56.—*Eye Strain in Its Relation to the Vertical Centration of Lenses. Burton L. Dunn.
57.— Some Aids in Ophthalmic Teaching. F. Dimmer.
58.—*The Question as to the Presence of Ganglion Cells in the Iris. N. Androgsky.
59.— Suppurative Keratitis. A. Schultz.
60.—*Changes in the Eye after Ligation of the Gall-Bladder (an Experimental Contribution to the Knowledge of Ophthalmia Hepatica). W. Dolganoff.
61.— Contribution to the Subject of Tuberculosis of the Conjunctiva. Carl Grunert.
62.—*Experiences and Studies with Regard to Strabismus. Ph. Steffan.

Medical Dial (Minneapolis, Minn.), October.

63.—*Arm Saved After being Run Over and Crushed by a Railway Locomotive. S. L. Kilmer.
64.— Fibroma Molluscum. F. J. Leviseur.
65.— Myasthenia Gastrica. John W. Bell.
66.— Treatment of Cancer by Cataphoric Diffusion of Oxychlorids of Mercury and Zinc: the Massey Method. G. Betton Massey.
67.— Tetanus and Tetanus Serum, Report of Case. Edward Newton Flint.
68.— Legal Responsibility of Physician in Certain Cases. F. F. Casseday.
69.— Differential Diagnosis of Smallpox, Chickenpox and Measles. G. R. Curran.

Medical and Surgical Bulletin (Nashville, Tenn.), September.

70.— Neurasthenia. K. S. Howlett.
71.— Treatment of Chronic Tubercular Pulmonary Consumption. O. C. Smith.
72.— Two Cases of Perrineorraphy. L. W. Spradling.

Fort Wayne Medical Journal-Magazine, September.

73.— On Certain Diseases Not Due to Autotoxication from the Intestine. B. VanSweringer.

Atlanta Journal-Record of Medicine, October.

74.— Pathology of Fever. J. Clarence Johnson,
75.— Climatology and Sanitation. T. S. Hopkins.
76.— Appendicitis. Hugh F. Lorimer.
77.— Report of Three Surgical Cases, with Comments. E. C. Davis.
78.— Penetrating Wounds of the Eye. A. Bethune Patterson.
79.— Report of Two Cases of Typhoid Fever. J. M. McClanahan.
80.— Suspension of Uterus by Intramural Shortening of Round Ligaments. George H. Noble.

Laryngoscope (St. Louis, Mo.), October.

81.— Endocranial Complications of Otic Origin. Two Cases of Cerebral Abscess. E. J. Moure.
82.— Adenosarcoma of Nasal Septum. Albert Rufus Baker.
83.— A Remarkable Accident. J. W. Bird.
84.—*Some Consequences of Singers' Nodes. A. Rosenberg.
85.— Interesting Case of Fatal Dyspnea in a Child. Samuel E. Allen.

Indiana Medical Journal (Indianapolis), October.

86.— Appendicitis. Robert T. Morris.
87.— Significance of Lacerations of Cervix Uteri. H. O. Pantzer.
88.— The Doctor and Literature. A. W. Brayton.

Medical Mirror (St. Louis, Mo.), October.

89.—*A Profitable Medical Education. Henry O. Walker.
90.— The Forms and Treatment of Chronic Rhinitis. R. C. Kenner.
91.— Sanguiferrin in Chlorosis. W. C. Abbott.
92.— La Grippe: Its Manifestations, Complications and Treatment. W. W. Grube.

Western Clinical Recorder (Chicago), September.

93.— Anthrax Affecting Man. Fred Jenner Hodges and Wm. T. Rinehart.
94.—*Practical Value of Determination of Indicanuria. H. Gideon Wells.
95.— Five Hundred and Fifty Surgical Operations Without Alcohol. Chas. Gilbert Davis.

New York Lancet, September.

96.— Infectious Jaundice. W. H. Washburn.
97.— Superficial Treatment of Deep Diseases. W. H. Dickinson.
98.— Diagnosis of Scarlet Fever. F. Foord Caiger.
99.— Case of Strumpell's Paralysis Combined with Infantile Paralysis. E. C. Williams.
100.— Operating for Umbilical Hernia, whether for Radical Cure or when Strangulation has Occurred. Howard Marsh.
101.— Double Pneumonia in Sixth Month of Pregnancy; Miscarriage; Relapse; Recovery. Thomas Oliver.
102.— Extrauterine (One Tubal, One Ovarian) Gestation with Rupture before end of First Month. Hastings Gilford.
103.— Cases of Intractable Uterine Hemorrhage for which Vaginal Hysterectomy was Performed. C. E. Purslow.

Journal of Tuberculosis (Asheville N. C.), October.

104.—*Widal Reaction in Tuberculosis. S. H. von Ruck.
105.—*Immunity as Against Heredity in Tuberculosis. Lawrence F. Flick.
106.— Diagnosis of Tuberculosis. W. H. DeWitt.
107.—*Tuberculosis Crusade and Its Problems. Chas. Denison.
108.—*Pulmonary Consumption and Tuberculosis. Ch. Baeumler.

Cleveland Medical Gazette, September.

109.— Progress of Abdominal Section from 1771 to 1899. Lillian G. Towslee.
110.— New Remedies. J. F. Purviance.
111.— Report of Case of Unilateral Diffuse Hypertrophy of Breast. Frank E. Bunts.
112.— Case of Sinus Thrombosis. Albert Rufus Baker.
113.— Puerperal Hematoma. J. D. Lower.

Iowa Medical Journal (Des Moines, Iowa), October.

114.— Report on Gynecology. J. R. Guthrie.
115.— Expert Testimony. Charles Egan.
116.— Abdominal Aneurysm. W. M. Besore.
117.— Horse Sense in the Practice of Obstetrics. W. W. Eastburn.

Pacific Medical Journal (San Francisco, Cal.), October.

118.— Factor in Successful Result of Operations for Strabismus. Louis Chas. Deane.
119.—*Pathelesia. C. F. Bulkley.
120.— Starchy Indigestion and Value of Malt Preparations Therein. A. W. Perry.
121.— Pathology. J. L. Asay.

Journal of Mississippi State Medical Association (Biloxi), October.

122.— Arteriovenous Aneurysm Removed from Scarpa's Triangle. M. J. Lowry.
123.— Notes from Practice. A. C. Halbert.
124.— Circumcision. W. W. Robertson.
125.—*Some Facts about Yellow Fever. H. M. Folkes.
126.— History and Treatment of Three Cases. John Darrington.
127.— Irregular Menstruation in Young Women Due to Anemic Conditions. H. Edwin Lewis.

Pediatrics (N. Y.), October 15.

128.—*Observations on Morbid Anatomy of Tuberculosis in Childhood. George F. Still.
129.—*Remarks on Tuberculous Adenitis. George Morgan.
130. –*Causation of Night Terrors. E. Graham Little.
131.— Operation for Relief of Contraction of Forearm and Hand Following Infantile Hemiplegia. A. H. Tubby.
132.— Notes on Treatment of Rickets in an Out Patient Department. E. Mansel Sympson.

North Carolina Medical Journal (Charlotte), October 5.

133.— Fractures of Skull. J. Garland Sherrill.
134.— Report of Case of Elephantiasis. Albert Anderson.
135.— Treatment of Gonorrhea, with Clinical Reports. Robert C. Kenner-
136.— Chicken Bones and Other Foreign Bodies in the Rectum. K. G. Averitt.

Columbus Medical Journal, September 25.

137.— Cerebrospinal Meningitis, with Report of a Case. Benson E. Sager.
138.— Treatment of Uterine Hemorrhage without Neoplasms or Pregnancy. John Inglis.
139.— Historic Sketch of Medical Colleges of Columbus. James U. Barnhill.

Medical Age (Detroit, Mich.), October 10.

140.—*Mastoid Complications in Acute Otitis Media. Samuel G. Dabney.
141.—*Importance of Early Treatment of Insanity. Moses J. White.
142.—*Surgical Treatment of Internal Hemorrhoids. Wm. F. Metcalf.

New York Medical Journal, October 21.

143.—*Very Early Rupture in an Ectopic Gestation in a Tubal Diverticulum. Fernand Henrotin and Maximilian Herzog.
144.—*Report of Two Cases of Accessory Thyreoid Gland at Base of Tongue. Arthur W. Watson.
145.—*Cause of Death from Industrial Electric Currents. R. H. Cunningham.
146.—*Surgical Diseases of the Kidneys: Cases Illustrating some Points in Diagnosis and Treatment. Leonard Freeman.
147.—*Effect of Atmospheric Changes on the Hearing in Chronic Catarrhal Otitis Media. Seymour Oppenheimer.
148.—*Clinical Note on Connection between Asthma and Eczema. H. Neville Taylor.
149.—*Treatment of Follicular and Suppurative Amygdalitis and the Angina of Scarlet Fever by Injection of a Solution of Carbolic Acid. H. Judson Lipes.

Medical News (N. Y.), October 21.

150.—*Arid Region of the United States for Pulmonary Tuberculosis. J. O. Cobb.
151.—*Steatosis of Liver and Coagulation Necrosis; a Further Contribution to the Yellow Fever Discussion. Felix Vitale.
152.—*Beta-Eucain as an Anesthetic in Eye, Nose and Throat Work. William H. Poole.
153.— Three Interesting Heart Cases. Charles Ross Jackson.

Boston Medical and Surgical Journal, October 19.

154.—*Acute Abdominal Symptoms Demanding Immediate Surgical Intervention. Maurice H. Richardson.
155.—*Treatment of Cerebral Tumors. Philip Coombs Knapp.
156.— Case of Hemorrhagic Pleurisy; Permanent Drainage; Recovery. George G. Sears.
157.—*Gastric Ulcer at Massachusetts General Hospital, 1888 to 1898. Robert B. Greenough and Elliott P. Joslin.

Medical Review (St. Louis, Mo), October 21.

158.—*Treatment of Pulmonary Tuberculosis by the Inhalation of Antiseptic Nebulæ. Homer M. Thomas.
159.— A Notorious Quack of the Time of Charles II of England. G. R. Highsmith.

Philadelphia Medical Journal, October 21.

160.— Medical Education. Charles W. Burr.
161.—*How Far Has Specialism Benefited the Ordinary Practice of Medicine? L. Duncan Bulkley.
162.—*The Contagiousness of Inherited Syphilis. J. Henry C. Simes.
163.— Clinical Cases and Interesting Ideas. Samuel F. Brothers.
164.—*A New Intestinal Anastomosis Forceps. Angus McLean.

Medical Record (N. Y.), October 21.

165.—*Early Diagnosis of Cancer of the Stomach. John C. Hemmeter.
166.—*Paralysis Following General Anesthesia. William M. Leszynsky.
167.— Psychologic Study of Jurors. T. D. Crothers.
168.—*Renal Casts: Their Significance and Detection. Jo. H. Linsley.

Cincinnati Lancet-Clinic, October 21.

169.—*Association of Hysteria with Organic Disease of the Nervous System. Philip Zenner.
170.—*Report of Two Cases of Intestinal Obstruction. C. M. Paul.
171.— Clinical Notes. G. L. Bailey.

Maryland Medical Journal (Baltimore), October 21.

172.—*Notes on Treatment of Typhoid Fever, and Special Indications for Use of Copper Arsenite in this Disease. Louis Kolipinski.
173.—*The Mercurial Vapor Bath. Henry Alfred Robbins.

AMERICAN.

1. **Facial Paralysis.**—Langdon reports a case of facial paralysis, apparently existing from birth, and of an unusual type, involving to some extent the sixth, ninth, and possibly the twelfth pairs of nerves as well as the seventh. The case is given in detail, with illustrations. Considering the fact that an isolated, unilateral, congenital, facial paralysis is a rarity, and is even stated by Bernhardt to be undemonstrated, he offers this case—accepting the history—as unique in the etiology as well as the distribution. In the discussion, Dr. H. M. Thomas suggests the possibility of the lesions occurring at birth. Dr. Langdon remarked that the patient had been an attendant in asylums and had been seen repeatedly by neurologists, and his peculiar condition had not been particularly noticed.

2. **Cerebral Hemorrhagic Pachymeningitis.**—Burr and McCarthy detail a case of cerebral pachymeningitis with autopsy. Alcoholism was apparently the cause. During the course of the disease a pseudobulbar paralysis developed. They conclude their paper with the following: 1. Hemorrhagic pachymeningitis should not be forgotten as a possible cause of epileptiform fits beginning in adults. 2. The condition may sometimes at least be inflammatory in origin. 3. Alcohol and tuberculosis are both causes. 4. A pseudobulbar palsy may develop in the course of the disease.

3. **Sensorimotor Palsies.**—Fraenkel attempts to reply to the following questions: 1. What, if any, is the effect of disease of the fifth nerve on the motility of the face? 2. Which, if any, function of the fifth nerve is it in particular that is indispensable for perfect motility of the face? 3. The fifth nerve carrying deep sensibility to the ocular musculature as well as to the facial, what, if any, is the effect of disease of the fifth nerve on the motility of the former? 4. How are we to clinically determine the state of deep sensibility of the facial and ocular musculature? 5. Are not some of the ocular palsies observed in the early stages of tabes sensorimotor paralyses and not primarily motor? For the solution of these questions the following methods were employed: 1. Study of a case with a rather fortunate grouping of the symptoms. 2. Study of the physiologic, clinical and anatomic literature at his disposal. 3. Analysis of twenty-two cases of tabes, at present under observation, with regard to the relation between disordered function of the facial and oculomotor nerves and disease of the fifth nerve. The case used was apparently one of tabes with extensive disease of the fifth nerve, motor impairment of facial and ocular musculature, especially of the left side, due rather to inco-ordination than to actual paralysis. There was disordered sensibility in the distribution of the fifth nerve on the same side, with atrophic symptoms. The subject is reviewed at length, and an analysis of twenty-two cases observed is given. The answers to the questions formulated in the beginning are offered as follows: 1. Disease of the fifth nerve interferes with the motility of the face. 2. As yet no function of the trigeminal in particular can be ascertained, which could justly be supposed to be the cause of the impaired motility; the kinesthetic sensibility, when cautiously and patiently examined, was found more frequently and more extensively disordered than the other functions. 3. The effect of disease of the fifth nerve on the motility of the eyes seems to be a similar one. 4. All the means at present at our command for examining the deep sensibility of the facial and ocular musculature are not very exact. It is particularly difficult to ascertain slight disorder. The procedure described above—examination of the deep sensibility of the eyelids—gives a fair impression of the deep sensibility of the levator palpebræ, and no method is apparently known for determining the kinesthetic sensibility of the other external eye muscles. 5. Some of the ocular palsies of tabes are probably sensorimotor palsies.

4.—This paper appeared in the JOURNAL of September 16.

14.—See JOURNAL, May 13, p. 1061.

17. **Mitral Stenosis.**—Stevens describes the symptoms, or rather the physical signs, of mitral stenosis, and calls attention to the variations from the usually accepted typical sounds.

He especially notices the accentuation of the first sound of the heart in this condition, which may lead to the mistake of calling a diastolic bruit a systolic one. He is inclined to consider this loud and abrupt rapping into which the presystolic murmur merges as one of the most characteristic features of mitral stenosis. The presystolic murmur, which is usually considered characteristic, is variable and has a tendency to disappear in certain cases, and can no longer be regarded as pathognomonic as it has been found in at least five other conditions, viz., aortic regurgitation, adherent pericardium, simple dilatation of the left ventricle, aneurysm of the heart and anemia. While present at some period in nearly every case, it is not peculiar. There is also a false thrill sometimes felt, probably due to the pulsation of the chest walls being interrupted by the rigid ribs.

20. **Hemoglobin.**—The authors of this article have tested the various instruments used for detecting the proportion of hemoglobin in the blood and give accounts of their findings. They believe that the tintometer of Oliver is the most accurate clinical instrument for this purpose, but its expense is against it. The specific gravity method will answer all purposes for those who can not afford the tintometer. To those who are accustomed to the use of the spectroscope, they suggest the use of Hanocque's hematoscope, which is useful also in examining for all pathologic fluids in the urine. Von Fleischl's and Gower's instruments are not suitable for accurate estimates.

28. **Albuminuria in Pregnancy.**—Four cases are here reported by Skeel, from which, admitting their limited number, the following ideas are suggested: 1. Some of the bad results of the renal lesions of pregnancy, which give rise to albuminuria, can be obviated by treatment begun early and continued persistently, the treatment being practically the same as in acute and subacute nephritis. 2. Epigastric pain in a pregnant woman, the subject of albuminuria, is an extremely serious symptom and deserving of most careful attention. 3. Morphin, in one or two moderately large doses during convulsion, chloroform, venesection and veratrum should be given a trial in the ordinary case of eclampsia, without resorting to immediate delivery unless labor is already in progress. 4. Unless prompt improvement follows these measures delivery should be accomplished under deep anesthesia in the shortest time possible without doing violence to the maternal soft parts.

29. **Method of Tissue Preservation.**—The method here described, which is not claimed to be entirely new, but is modified from other formulas and processes so that some claim of originality is to be justified, is as follows:

Preparation.—The organ is first placed in running water until it is free from all blood stains and foreign material, as pus, necrosed tissue and detached epithelial elements. It is then placed in position for fixing, i. e., the important details of the tissue should be most advantageously placed for inspection and indicated if possible by a toothpick or probe. Shrinkage must be avoided also as much as possible to prevent obliteration of the most minute blood channels. To this end a closed sac is inflated with air and the tissue, lying in one plane, is stretched upon pasteboard or splint-wood and fastened with brass tacks. Ordinary tacks will rust, thereby discoloring the tissues and spoiling the solutions.

Fixing.—The solution is formalin, an aqueous solution of formaldehyde at 40 per cent., which toughens and discolors the tissues. At the end of twenty-four hours the piece is transferred to alcohol, a 50 per cent. solution, for three hours, then put into a 96 per cent. solution of alcohol for five hours at a temperature of 95 F. In this bath the organs recover their previous coloring and the blood becomes tinted as if the vessels had been freshly filled. The piece is then placed in an aqueous glycerin solution of potassium acetate—acetate 30, glycerin 60 and distilled water 100. In this the color becomes permanently set.

Mounting.—After this the specimen may be permanently mounted in glycerin jelly or placed in a preserving fluid if it is of good size. The preserving fluid is made by boiling together 50 grams of gelatin and 300 grams of water, to which add 175 c.c. of solution of potassium acetate; filter this preparation through a double filter, add 300 c.c. of glycerin and the process is complete.

32. **Frontal Sinusitis and Otitis in Influenza.**—Varian here reports a case of inflammation in the frontal sinus, associated with otitis media following influenza. It was relieved by leeches, sedatives, etc., without operation, but its points special interest were the severity of the subjective symptoms, with a slight disturbance of temperature and pulse, the persistence of the pain after rupture of the tympanic membrane and the hemorrhagic nature of the otitis (both of which last named are frequent with otitis from influenza), the severe symptoms pointing to thrombosis of the lateral sinus or at least mastoid inflammation, and their final subsidence without even a discharge from the right ear.

36.—See abstract in JOURNAL, August 19, p. 481.

38.—Ibid, August 12, p. 413.

39.—Ibid, August 19, p. 481.

40.—Ibid.

41.—Ibid.

42.—Ibid, August 12, p. 413.

43. **Cardiac Insufficiency.**—After describing the symptoms and conditions common in attacks of cardiac insufficiency, Osborne discusses the drugs to be used in this condition. Morphin, while useful, may impair the action of the respiratory centers, but with the addition of atropin is the correct physiologic remedy. To give the proper tone to the arterial system, which is required, nitroglycerin, either 1/200 of a grain hypodermically or, better, the same amount by the mouth at short intervals until frontal throbbing is complained of, will generally obviate the necessity of venesection. In case the natural resolution of the cardiac paroxysm does not occur, but cardiac dilatation, edema and passive congestion of the lungs or other symptoms of cardiac insufficiency show themselves, we must help the heart directly, and here digitalis is the best cardiac tonic. Digitalin is the best form for hypodermic use, and he advises the dose be from 1/100 to 1/50 of a grain. We must not forget to keep the patient in a recumbent position absolutely until the profound effects have passed off, which may not be for a number of hours. If, after stoppage of the paroxysm, we have cardiac exhaustion, as shown by pallor, pinched nose, intermittent pulse, etc., we must use stimulants, strychnin, camphor, and probably alcohol, though he admits that he is afraid of the latter in bad cardiac cases. Other drugs mentioned to be used in the after-treatment are cactus, strophanthus, spartein and caffein. In cases without valvular lesions due to narcosis or shock, if there has been hemorrhage, transfusion of saline solution is the first remedy, and he recommends the giving of high injections per rectum as routine practice after any severe prolonged operation. Heat to the extremities and heart, and elevation of the feet to aid in the return of the blood to the veins, etc., are also mentioned. He believes that we have more frequent cases of sudden or chronically weak heart than formerly, for which no assignable cause can be given. The chronically weak heart without valvular lesions is best treated by strychnin and small doses of digitalis and cactus. As stimulants, camphor and ammonia are better than whisky or coffee. Careful regulation of life and habits, and removal from nervous causes of exhaustion are advisable.

45. **Pathology and Medical Societies.**—Wynn describes the pathologic department of the Indiana State Medical Society, which he holds is an important advance in medical society work.

46.—This article appeared elsewhere; see title 93, JOURNAL, September 9, title 93, p. 656; also August 26, titles 54 and 87, p. 532; also July 22, title 40, p. 214.

47.—This article was published in full in the JOURNAL of June 24.

56. **Eye Strain.**—Dunn maintains that decentration of the lenses downward to the reading point is the most effective method of correction of the refractive errors caused by eye strain, and reports three cases of astigmatic and prismatic errors thus caused and relieved. He says: "It would seem from a study of these cases that the ordinary method of lens centration tends to give rise to a class of pseudo-insufficiencies which complicate the already difficult problem of muscle-balance. The whole matter of the relation of the muscles to vertical prism-imbalance at the near point deserves still more study; and it is my hope that by calling attention to the possibility of such pseudo-insufficiencies, further work may bring out much which may prove of advantage to students of the ocular muscles."

58. **Ganglion Cells in the Iris.**—The following are the conclusions of Androgsky's article: 1. In the iris itself, i.e., in the course of its nerves and in the region of the sphincter, ganglion cells are entirely wanting; those who have described ganglion cells as existing here have mistaken for ganglion cells either the triangular nuclei or the nerve fibers, or the branched stroma cells of the iris. 2. Ganglionic structures in the form of bipolar and multipolar nerve cells are found only in the superficial nervous network of the ciliary process. As to the function of these ganglion cells—while it is possible that they belong to the motor nervous system of the iris, it is more probable that they belong especially to the ciliary processes, serving as a regulating center for the vessels and, consequently, for the secretion of the aqueous humor.

60. **Eye Changes After Ligation of Gall-Bladder.**—Dolganoff reports experiments on dogs, discusses the subject of changes in the eye after ligation of the bile-ducts, and deduces the following conclusions: 1. After ligation of the common bile-duct the coats of the eye undergo very pronounced changes of inflammatory and degenerative characters. 2. The changes are found in the stroma of the connective tissue, in the vascular system, and in the nervous elements. 3. The changes in the connective tissue consist in the proliferation of the nuclei. 4. The alterations in the vascular system comprise distension of the vessels, swelling of the endothelium, perivasculitis, enlargement of the spaces about the vessels, hemorrhages and exudations. 5. The affections of the nervous system consist in various degrees of degeneration of the protoplasm of the ganglion cells, alterations in the nuclei, and enlargement of the spaces about the cells. All these changes point to a distinct cause for their origin and development, and one can not consider them to be simply the expression of lowered general nutrition.

62. **Strabismus.**—The chief point made in Steffan's article is that strabismus can not be congenital, owing to the undeveloped condition of the eye at birth and for some time after before the nerve fibers obtain their sheaths and are capable of isolated conduction. He points out that the function of seeing is not perfect for several years after birth, and certainly not in the new-born infant. He quotes from Naumoff, as to the ophthalmoscopic findings of retinal hemorrhage in the newborn, and also suggests the abnormal development of the bones as affecting the optic apparatus. He does not recommend early treatment of strabismus, at least not until the patient's intelligence can co-operate in the treatment.

63.—See abstract in Journal, October 21, p. 1041.

84. **Singers' Nodes.**—The cause of the pinhead nodes on the vocal cords of singers is, according to Rosenberg, in at least a large proportion of cases, obstruction of the outlets of the minute glands described by Fränkel some ten years ago, which open directly under the edge of the cord. He has observed another consequence in several women singers: After the subsidence of the nodes, there occurred a more diffuse broadening of the vocal cords in the entire region of the pars libera giving the edge of the vocal cord a shallow convex form. The enlargement, originally confined to the mouth of Fränkel's glands, now occupied the entire non-cartilaginous portion of the cord. After rest and local astringent medication the normal condition was restored. He does not know that this alteration has been elsewhere described, and, therefore, calls attention to it.

89.—See ¶ 4, above.

94. **Indicanuria.**—Wells holds that in certain cases, such as intestinal obstruction from strangulation within the abdominal cavity, volvulus and intussusception, the testing of the urine for indican may be of great value. In most other conditions the diagnosis can be made more quickly and equally satisfactorily by other symptoms.

104. **Widal Reaction in Tuberculosis.**—Von Ruck reports some sixty tests of blood from individuals suffering from typhoid, those free from typhoid and tuberculosis, tuberculous patients who have never had typhoid, and also from those who had. He finds that in tuberculous patients who have had typhoid within five or six years, there is a modified Widal reaction, and that in some cases this test will serve for differential diagnosis between tuberculosis and typhoid, as in cases of tuberculous patients who never had typhoid there is a sort of clumping of the germs, entirely different from that in typhoid. He sums up his conclusions as follows: 1. Inasmuch as with the blood of the tubercular patients who had never had typhoid fever, a modified reaction was obtained, and, as no reaction occurred with the blood of individuals free from tubercular affection and with no previous history of typhoid, it may not be unreasonable to presume that such change takes place in the blood of the former, not occurring in that of the latter, which in a manner exerts a certain degree of a protective influence against infection with the Eberth bacillus. 2. A true Widal reaction is not to be obtained with the blood of tubercular patients; but what may be termed a modified reaction does occur quite uniformly, the difference being one of time and degree only. 3. The modified reaction seen with the blood of persons suffering from tuberculosis in no way detracts from the value of the Widal reaction as applied in typhoid fever. However, the results shown should, in the use of this diagnostic means for typhoid, lead those to be cautious who are not familiar with what constitutes a true Widal reaction. 4. It has been demonstrated that a modified reaction takes place with the blood of tubercular subjects and the differences between this reaction and that obtained in typhoid fever have been pointed out. Again, it has been shown how very differently the blood of those affected with tuberculosis behaves—when brought in contact with the germ-containing fluid of a young Eberth culture—as compared with that of the healthy individual. Certainly each has its own characteristics which are not difficult to distinguish, if one observes at all carefully. The Widal reaction can and may be used for diagnostic purposes in tuberculosis. At least to obtain such a modified reaction when no history of previous typhoid existed, might lead to a suspicion of tuberculosis, if to nothing more. But with a past history of typhoid the question would necessarily remain undetermined; for some influence due to that disease undoubtedly persists to a greater or less degree and for a longer or shorter period of time.

105. **Immunity vs. Heredity in Tuberculosis.**—The question of immunity from tuberculosis is discussed by Flick at some length, and he maintains that the disease in time breeds a certain immunity and that when it occurs in those altogether free from tubercular antecedents it is likely to be more malignant and severe. He thinks that tuberculosis in certain tissues of the body, if recovery takes place, may set up an absolute immunity against future attacks, and reports as an example a case of a cripple from tuberculous caries of the spine who was necessarily prevented from the ordinary defenses against tuberculosis, of light, air and exercise, and yet who remained the only surviving member of his family who all died from tuberculous disease. In spite of the intense and constant exposure, he remained immune.

107. **Tuberculous Crusade and Its Problems.**—The paper by Dr. Denison is not capable of being abstracted in full within the limits here allowed. He proposes some forty-four different subjects for study in the fight against tuberculosis, and he suggests that there is possibly a mistake being made, or likely to be made, in endeavoring too much to ward off infection at the expense of attention to eradicating the degeneracy or predisposition.

108. See abstract in Journal, June 17, p. 1385.

119. **Pathelesia.**—Buckley defends his newly-originated term against certain criticisms made on it in medicine. He maintains that it better directs attention to the nature of the disease than those heretofore used.

125. **Yellow Fever.**—According to Folkes yellow fever can be contracted twice or oftener, but in a very small percentage of cases, and a second attack may be as severe as the first. The germ, in his opinion, lives in a certain peculiar kind of mold, and while freezing will not destroy it, it stops the growth of its soil, and as this is essential to the life of the germ, it is also destroyed. Heat, moisture and dampness are essential conditions for the growth of the germ, and from ten days to two weeks is the time required to thoroughly infect a locality. He does not consider that we have any reliable evidence of its ever being carried from place to place, except by persons already sick or developing the disease, though clothing and bedding kept in a dark damp place may possibly convey the infection. He thinks there is not any satisfactory proof of its ever being carried by the physician. Its mortality has been

exaggerated in times past, and this has given rise to a greater fear of the disease than is at present justified. Since 1878 the mortality has been constantly on the decrease, only in exceptional localities being above 10 per cent. since 1853, and of late years not above 4 per cent. It must be remembered that official mortalities are, as a rule, two or three times too large, since all deaths are reported and not all cases. The disease is just as amenable to measures of isolation and disinfection as other infectious diseases. Since the diagnosis is sometimes not possible, it is well in regions subject to yellow fever to carefully disinfect and isolate all cases of sickness that might possibly be yellow fever, between April 1 and October 1, the measures to be taken being much the same as those employed in typhoid fever, and visiting prohibited betwen the dates mentioned.

128. This paper was commented on editorially, in the JOURNAL of October 21, p. 1058.

129. **Tuberculous Adenitis.**—According to Morgan, this condition is not nearly as frequent as it was fifteen years ago, and it is largely dependent on surroundings. If we could improve the individual soil as well as the environment, still more could be done, but the marriage and intermarriage of tubercular predisposed individuals is beyond the jurisdiction of the medical officer of health. He notes the relation of the glands with the cutaneous and mucous surfaces, the teeth and gums, the tonsils, and the nasal pharynx, especially when adenoids are present. As regards treatment, he insists on the boiling of milk, frequent examinations of the throat, and attention to the teeth. He thinks that before using cod-liver oil, it is well to give a little grey powder and alkaline mixture before meals for a few days, and then whatever tonic suits the child best. In the majority, iodid of iron with malt is good and well taken. Fresh air and sunlight are essential. For local treatment he has used an application of iodin or iodid of potash with glycerin painted over the enlarged glands, which is often very beneficial. If after fair trial with general and local treatment, the glands still increase in size and show signs of softening, the sooner they are excised the better. The glands should be taken out without bursting if possible; pressure should be avoided.

130. **Night Terrors.**—Little rejects the epileptic theory of their causation. In nearly two-thirds of his cases incipient heart disease was present. He maintains that they are caused by reflex stimulation almost always produced by dyspnea. He sums up his findings and opinions as follows: 1. Night terrors are in the great majority of cases caused by disorders productive of moderate but prolonged dyspnea. 2. A preponderating number of cases are found in rheumatic subjects with early heart disease. 3. A considerable proportion of cases are due to obstruction of nasal cavities and fauces. 4. Digestive disturbances do not play the important part in causation that is often assigned to them. 5. The evidence for their causal connection with epilepsy or allied neurosis is scanty. 6. The attacks occur in the subconscious stage of early sleep, and are confined to young children under puberty.

140. **Mastoid Disease.**—A case of mastoid periostitis and inflammation of the mastoid cells is reported by Dabney, and he offers in conclusion the following points as regards the mastoid operation: 1. In all operations scrupulous attention must be paid to surgical cleanliness, as the unexpected may happen and some meningeal exposure be found. 2. In periosteal inflammations an incision should be made over the mastoid down to the bone and the bony surface carefully examined. 3. When the mastoid antrum is to be opened, the opening should be just behind the external meatus and just below its superior border. 4. Chisels and mallet are the best instruments for opening the mastoid, followed by curette, sharp spoon, and rongeur forceps. 5. It is best to establish drainage through the mastoid antrum into the tympanum. 6. It is of great importance to examine the process in the direction of its tip, and if need be to thoroughly open it. 7. The upper part of the wound may be closed with a few stitches; iodoform gauze should be packed into the lower part and well into the bony cavity. The subsequent dressings and irrigation may be determined by the absence of fever and other septic symptoms.

141. **Early Treatment of Insanity.**—The tendency to postpone asylum treatment in cases of insanity is deplored by White, who points out the dangers of delay, especially as regards the patient's condition as to auto-intoxication and the administration of sedatives that are usually required in home treatment. The statistics that he gives of recoveries under asylum treatment after various durations of the disease, are as follows: New admissions received within three months of the onset, 75 per cent. recover; 50 per cent. within six months; 25 per cent. within one year, and 10 per cent. after one year's duration. These figures, he claims, are based on reports of asylums throughout the world, carefully collected and prepared by men thoroughly versed in such matters, and are, therefore, worthy of confidence.

142. See abstract in JOURNAL, September 23, p. 796.

143. **Early Rupture in Ectopic Gestation.**—After calling attention to the rarity of rupture in tubal pregnancy during the first months, Henrotin and Herzog report a case in which, from the history and examination of the specimen removed, both macroscopic and microscopic, they come to the conclusion that the pregnancy occurred originally in a diverticulum of the tube, which was short and probably traversed the fibers of the muscular coat outward in such a manner that its wall was exceedingly thin. This gave way very early, not later than three weeks after impregnation, under the influence of pressure and pressure atrophy, and a rupture and hemorrhage from the placental site occurred. At the time of the rupture the ovum must have been alive, as there were no indications of previous hemorrhage or degeneration of the decidua and syncytial buds. They do not attempt to say whether the diverticulum was congenital and due to an embryonic anomaly or was produced later in life by some pathologic process.

144. **Accessory Thyreoids.**—Watson reports two cases of tumors at the base of the tongue, composed of thyreoid tissue, and states that he has been able to find but two cases reported since 1892, of a similar condition. Prior to that Warren of Boston had reported one and mentioned others collected from the literature by Butlin. It is notable that these tumors are not mentioned in most of the works on diseases of the nose and throat, including those of Mackenzie, Cohen, Brown, Bosworth, Ingals and Sajous. McBride, in his last edition, merely mentions them as possibly occurring on the tongue. Thyreoid tumors in this position are developed from a persistent upper part of the thyreoglossal duct, which is formed in the development of the thyreoid gland, and opens at the base of the tongue at the position of the foramen cecum. The thyreoglossal duct is usually obliterated after the eighth week of fetal life, but may persist, wholly or in part throughout life.

145. **Death From Electric Current.**—Cunningham's paper will be concluded in the coming issue of the *New York Medical Journal* and will then be noticed.

146.—See abstract in JOURNAL, July 22, p. 225.

147. **Atmospheric Changes and Hearing.**—Oppenheimer has studied fifty consecutive cases of chronic sclerosis of the middle ear, to determine the variations of hearing under different atmospheric conditions. He calls attention to the fact that the aural apparatus is but a sort of specialized diverticulum of the respiratory tract and has the same histologic characteristics, except such as are connected with its special functions. He also notices the intimate connection between the nasopharyngeal and aural cavities, and the conditions of atmospheric pressure affecting each. He concludes his article with the following: 1. The hearing in at least 70 per cent. of cases with chronic catarrhal deafness becomes worse under adverse weather conditions. 2. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathologic process in the tympanic cavity. 3. The morbid alterations most susceptible to barometric variations are those of hyperplasia. 4. In purely atrophic changes in the middle ear weather variations have little or no effect on the auditory function. 5. Atmospheric influences also impair the hearing by unfavorably affecting catarrhal processes of the upper respiratory tract and Eustachian tube. 6. All things being equal, the impaired audition in chronic catarrhal otitis is diminished more—under unfavorable weather influences—in those whose general health is below par than in those otherwise healthy.

148. **Asthma and Eczema.**—The case here reported by Taylor is one in which there seems to be a direct connection between a dermatitis and asthma in a boy aged 8 years, and he

calls attention to this fact without attempting to give an explanation.

149. **Carbolic Acid Injection in Tonsillar Disease, Etc.**—The treatment of the angina of scarlet fever, suggested by Heubner and recommended by Seitz of Munich, is here described. Seitz uses a long needle syringe, the needle having a shoulder about 4 mm. from the point, to prevent too deep injection and consequent injury of the vessels. The shank and needle proper of Lipes' syringe, are together about 6 cm. long and with the extremity turned at an angle of 45 degrees, the elbow being about 3 mm. from the point. This form permits the injection into the tonsil and the angle prevents too deep introduction, thus doing away with the necessity of the shoulder. In children, of course, a mouth-gag and tongue-depressor are necessary. The solution injected varied from 1 to 4 per cent., and though used at first with some hesitation for fear of trouble, no bad effects have been observed. The cases under observation in which this method was used by Lipes includes 5 of scarlet fever; 6 of diphtheria; 3 suppurative, 4 simple and 3 follicular amygdalitis. All but 2 were in children from 8 months to 15 years of age. In diphtheria no beneficial effects were observed and he thinks possibly it may be harmful by destroying the combative influence of the staphylococci on the Klebs-Loeffler bacillus. In scarlet fever there was no doubt as to the value of this procedure. Immediate relief was obtained with prompt reduction of the fever and immediate improvement of the general condition. These cases occurred in girls 4, 6 and 7 years of age. With the youngest patient first treated a 1 per cent. solution was used and only in one tonsil, and as some relief and no bad effects were observed, a few hours later both tonsils were injected with a 3 per cent. solution. In the 2 other cases only a single injection was necessary. The 4 cases of simple amygdalitis were seen in the early stages and, as other measures were used, the direct value of the injections can not be stated. All did well. In follicular and suppurative amygdalitis, where the cases were seen early, the results were more positive. In no case was carbolic acid intoxication observed, nor was there any sloughing of the tonsillar tissue, which was greatly feared in the younger children.

150. **Arid Regions in the U. S. for Consumption.**—Cobb says any altitude in the arid region above 2000 feet is as good as any higher for acute consumption. For women, those in an advanced stage of consumption and those with a tendency to hemorrhage care must be taken to select a medium altitude and cases with stenosis must never go to a high one. Patients must understand that they must make it a business to get well. The stories of hunting and fishing and scenery, except in Colorado, are likely to be exaggerated. The patient must not believe it is warm because there is so much sunshine, for though the midday may be hot, the nights are apt to be cold. The absurd idea that destructive valvular lesions prohibit living in an altitude above 2000 feet is mentioned by Cobb, who says that a little thought will convince any one that the average case without stenosis will do better here than at sea-level. As regards pulmonary hemorrhage, he can give no positive opinion, but he thinks patients suffering thus should first try a medium altitude. Physicians in the East should be very careful in sending women west, as menstruation is increased, often dangerously, in high altitudes, and in other respects the climate does not suit them so well. He believes that if the diagnosis is made early, before complications occur, 80 per cent. of the patients sent to the arid regions will recover. In cases of extensive, dry, pleuritic lesions of both lungs, the high altitude is dangerous. Women should start at an altitude not above 3500 feet. The accommodations, except in a few cases, are not good and hardships must be expected to be undergone. Sanitary arrangements are often very imperfect, and some patients become reinfected. He gives a directory of the principal resorts and their accommodations.

151. **Steatosis of Liver and Coagulation Necrosis.**—Vitale takes up the defense of Sanarelli against Drs. Reed and Carroll, in some detail, explaining Sanarelli's methods and results. He thinks that possibly Drs. Reed and Carroll confused necrosis in general with coagulation necrosis, which are two entirely different things.

152. **Beta-Eucain.**—Poole reports the advantages of beta-eucain, especially in nose and throat cases and in anesthesia. He ends with the following conclusions: 1. Eucain is decidedly less toxic than cocain, therefore superior to it. 2. Its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug. 3. It produces anesthesia equally well and sometimes better than cocain. 4. It is superior to cocain in that it does not cause heart depression or other unpleasant effects. 5. It does not cause mydriasis or disturbances of accommodation, which is an advantage in some cases. 6. It is less dangerous to the cornea than cocain, inasmuch as it does not cause desquamation of the superficial epithelium.

154.—Richardson's paper is to be continued.

155. **Cerebral Tumors.**—Knapp concludes his article with the following statement: If we summarize the results of surgical interference in cases of cerebral tumor in the last fourteen years, the outlook must be acknowledged to be discouraging. In about five-sixths of the cases of intolerable headache trephining will afford temporary relief, and, while sometimes hastening the end, will make the remaining period of life more endurable when drugs have failed to do so. In some cases of progressive amblyopia palliative trephining may also prevent blindness by checking the progress of the neuritis. With regard to the more radical operation of removal of the tumor, the chances of success are few and the outlook for the future is more hopeless. We do not seem to have gained much in diagnostic skill, although the gain in operative technique has diminished the mortality. Less than 10 per cent. of all cases are amenable to surgical interference, and a mortality of nearly one-third renders the operation one to be undertaken only after grave deliberation. The chances of complete recovery after such an operation are very small, probably less than 10 per cent. of the cases where the growth is wholly removed. The rest of the cases linger on, paralytic, epileptic or blind, and many finally succumb to a recurrence of the growth. It is a question whether the results of these operations are any more favorable than would be those obtained by medical treatment in the same number of cases, but statistics on this point are inadequate. Nevertheless, there is a small chance that an operation may effect a complete cure, or, at least, give relief for a number of months. With that chance, small though it be, an operation becomes justifiable, and the sooner it is done, if it is to be done, the greater the chances of permanent benefit. The constant increase in operative skill will probably continue to lessen the death-rate, and, although little has as yet been gained in diagnostic skill, there is still room for hope.

157.—See abstract in Journal, August 26, ¶ 6, p. 534.

158.—See abstract, p. 1102.

161.—Ibid, Journal, September 9, ¶ 54, p. 659.

162. **Inherited Syphilis.**—Simes has investigated the contagiousness of inherited syphilis. He has sent a letter to 37 physicians who from their experience would be apt to be able to give information, asking whether they had ever personally treated or known a case of syphilis thus contracted. Thirty-five replies were received, of which 31 were negative, 2 in doubt and 2 affirmative. The latter were unquestionably reliable cases, and he concludes that in answering the question, "Is Inherited Syphilis Contagious?" he would say that while there is a certain degree of contagiousness connected with inherited syphilis, it has been greatly overestimated. The fear of every case of inherited syphilis being a source of danger is a very great exaggeration. To draw the line where contagion begins and where it ceases would be very desirable, and he suggests that those cases that present the so-called secondary lesions may be placed on the side of danger, and when these are absent, contagion may be excluded. Still, this may not be absolute for all cases.

164.—See report of Detroit Medical and Library Association, Journal, October 21, p. 1040.

165. **Early Diagnosis of Cancer.**—Hemmeter accepts the statistics showing the increase of cancer as correct, and points out the different diagnostic marks, constipation, emaciation, absence of HCl, and increase of lactic acid, which last he thinks does not occur sufficiently early to be a good diagnostic sign. The microscopic examination shows minute fragments of cancer tissue and the so-called Oppler-Boas bacilli, both of which are important features. The examination of the urine has not often proved of value. The blood examination is useful in dis-

tinguishing from pernicious anemia. The presence of tumor is important and valuable as a sign. He notes the difficulties of differentiating cancer from hypertrophic pyloric stenosis and from diseases of the stomach associated with absence of HCl. There are, in his opinion, only two methods of making a positive early diagnosis of gastric cancers, one by curetting the stomach and examining the products, and the second by exploratory laparotomy.

166. **Paralyses Following General Anesthesia.**—Leszynsky calls attention to the preventable paralyses occurring during general anesthesia, affecting, as a rule, the upper extremities, and caused by the faulty manipulation of the arms, pressure from metal clamps, undue extension of the head toward one side, permitting the arm or leg to hang over the edge of the table, or pressure by the anesthetizer. He thinks the importance of these is often belittled and neglected.

168. **Renal Casts.**—The importance of renal casts is discussed by Linsley, and he thinks that in all cases they should be considered suspicious, though the narrow hyaline casts may indicate only vesical irritation. One of the common causes of their presence is the excretion of uric acid, and as this is often a symptom of a pre-nephritic condition, he thinks the recognition, if more general, would save many lives that now succumb to renal cirrhosis. Before examining the urine for casts, it should be allowed to stand for at least three hours in a conical glass, or better, subjected to mechanical sedimentation in a centrifuge. No higher power than ¾ to ½ inch should be used for the detection of casts. A very important feature in this examination is the illumination. The opening in the diaphragm should be reduced until the specimen is only faintly illuminated, then turn the mirror, using its concave side, in such a way as to direct oblique rays of light through the slide and objective. After carefully examining the specimen with a low power, a cover-glass may be applied and higher powers used.

169. **Hysteria and Organic Diseases.**—Zenner calls attention to the importance of making a correct diagnosis between so-called hysteria and organic disease The former, as is well known, may simulate nearly every disorder, and he has observed mistakes made by very competent men. He points out some of the guides to diagnosis, such as the hysteric temperament, the stigmata of the disease and the crises. The peculiar grouping of the symptoms is also a help, and their rapid changes, also the marked influence of mental impression and the power of suggestion. As special symptoms of diagnostic importance, he mentions the globus, the contraction of the visual field, for hysteria; and hemianopsia, alteration of the deep reflexes, rigid pupils, and the reaction of degeneration for organic nervous diseases. Nevertheless, these are not altogether pathognomonic, and the greatest safety lies in always remembering the difficulties of diagnosis and making painstaking examinations and careful observation. The importance of correct diagnosis in these cases, both for the physician and the patient, is very evident.

170.—See abstract in Journal, October 7, p. 917.

172. **Typhoid Fever.**—The special object of Kolipinski's paper is to call attention to an application of arsenite of copper in meeting some special indications in typhoid fever. When in the second, third or fourth week the acute symptoms have disappeared, and the temperature continues at the same daily elevation, and shows no indication of declining, or else, at these times, from nervous shock or other accident, the fever suddenly mounts higher, or else should the temperature be subnormal in the morning and rise to 99 F. or 100 F. in the evening, being markedly intermittent—under all of these conditions will the arsenite of copper arrest the febrile oscillations completely in from one to four days and convalescence follow. The mode of administration consists in giving from 1-1200 to 1-2400 of a grain diffused in a teaspoonful of water every half-hour for two or three days, of course allowing ample time for sleep. He remarks on the minuteness of the dose, much less than is usually recommended in works on therapeutics, but claims that the special effect is thus produced.

173. **Mercurial Vapor Baths.**—The apparatus described by Robbins is the result of several months work. He describes it as follows: The box as it now is has several new features. The top, as it is generally made, has a space only wide enough to encircle the neck of the patient. It is a double-hinged thing, split down the center. The top is made in one piece, excepting an opening which allows the head to pass through. Around this aperture rubber cloth is securely attached, and a cord makes it secure around the neck of the patient, admitting of no escape of the steam. The dimensions of the cabinet are three feet nine inches, by two feet nine inches, by three feet eleven inches. It has a door and two windows, where one can see how the steam is acting and whether the calomel is being dissolved or not. It is lined with oilcloth. The wood is of triple thickness and of the best seasoned wood. There is no leakage of steam. Within there is an iron revolving chair, which can be raised or lowered, according to the height of the patient. This chair has a foot attachment, so that he can make use of the electric wire, if desired, which also illuminates the box. He has gas connection. The gas pipe has a cock above the box, while at the bottom there is a double cock, one connecting with a Bunsen burner, over which is a tripod, which dissolves the mercury, and the other is connected with a little gas stove, on which is a pan of water to be converted into steam. In an upper corner of the box there is a warranted Watertown thermometer, with the bulb within the box. If the thermometer in its entirety were placed inside, behind a piece of glass, as it generally is, the condensed steam would cloud the register, making it impossible to read it. It requires a Bunsen burner to dissolve the mercury. After steam has begun to form, he places the patient on the chair in the box, then calomel, from ten to thirty grains, on the tripod. Instantly it begins to dissolve. In a minute you will notice steam and a film of mercury being condensed on the windows. Then the scale of the thermometer gradually ascends until it reaches from 110 to 120 F.; then the patient is sweating profusely. Then cut off the flow of gas from the upper stop-cock; then the register slowly falls. Altogether it takes about twenty minutes to give a bath. He does not allow the patient to rub off, but has him put on all his clothes at once. He has given these baths in the coldest winter weather, and no patient has "taken cold."

FOREIGN.

Dublin Journal of Medical Sciences, October.

Dislocation and Fracture of Astragalus. Henry Gray Croly.—The following are the conclusions arrived at by Croly, from a discussion of his own experience and the literature in regard to fracture and dislocation of the astragalus: 1. The term "sub-astragaloid" is confusing and misleading. 2. In dislocation of the astragalus the bone is either partially or completely separated from its surrounding articulations, and if a wound exists, and any portion of the bone protrudes it is compound. The direction in which the bone is displaced is specified by the terms forward, backward, outward, inward, etc. 3. In compound dislocation, with the head and neck protruding, the bone is so enucleated that its vascular supply is cut off, and though reduction might be affected, necrosis is certain to follow, necessitating the incision of the bone later on, meantime risking the patient's life by causing suppuration and septic trouble. 4. In compound fractures the sooner the bone is excised the better, the joint being drained. 5. In all simple partial luxations reduction should be attempted, and most probably success will be the reward of such praiseworthy efforts on the part of the surgeon. Tenotomy of the Achillis or tibia tendons may in some cases be considered necessary. In the complete simple or double luxation, where the astragalus has left its box, no effort on the part of the surgeon will effect replacement of the bone, and if its articular surfaces have undergone a change of position the bone must ultimately necrose. He advises immediate excision in these "Listerian" days as safer than allowing the bone to slough out, which always happens except in cases of luxation backward, when it may be allowed to remain.

Mercury in Diseases of the Heart. Wallace Beatty.—Noticing the comparative neglect of mercury in the treatment of heart disease, as described in modern text-books, Beatty points out its value, especially in case of venous engorgement, due to chronic pulmonary mitral valve disease or dependent on mitral incompetence, or from failure of the right heart caused by emphysema and bronchial and cardiac dilatation due to chronic interstitial nephritis, as well as in cases of dilatation with general dropsy and yet without obvious valvular disease. He finds the method most successful in his hands, of administering mercury, to be with small doses frequently repeated for its diuretic effects. The plan he adopts is to give a pill containing ½ gr. of calomel, usually with digitalis or squills every four hours, night and day, for ten to fourteen days. In case they produce purgation, he changes the pills to one with opium instead of the digitalis, ⅛ to ½ gr. He usually gives two sets of pills to be employed according to the circumstances. He thinks that mercury acts by stimulating the renal secretions and increasing the activity of absorption at the same time. He does not pretend to say that it is useful in all cases, but when digitalis and other cardiac tonics fail, the use of mercury is often attended with the happiest results.

Reaction of Intestinal Contents in Man. J. J. CHARLES.—The author investigated the reaction of the human intestines in fresh bodies before being prepared for dissection, and while the results may not be altogether reliable, still they agree fairly with those obtained by MacFadyen and others during life. He believes that in man in the reaction of the contents of the small intestines in normal digestion is mostly acid, and this is probably due, in the duodenum, to hydrochloric acid, and lower down to lactic and other organic acids, probably the products of fermentation. The reaction of the large intestine is, he thinks, generally alkaline, the secretions neutralizing the acid products from above. The feces are almost invariably alkaline, and acid reaction indicates abnormal digestion with much acid secretion.

Medical Press and Circular (London), October 4.

New Method of Estimating Lithates in Urine. FREUND and TOPFER.—This clinical lecture gives a new method of estimating lithates in the urine, stated briefly as follows: "About 5 c.c. of normal concentrated urine, to which an equal quantity of a 95 per cent. of alcohol is added. (It is always better to take two similar samples as controlling each other.) Place on a water bath and evaporate, rubbing well with more absolute alcohol. To the alcoholic extract 70 c. c. of a pure ether oxalic solution is added and allowed to crystallize; the crystals are again washed well with ether and filtered, about 80 c.c. more of ether being required. After drying filter and dissolve the crystals in a Kjeldahl flask with two drops of phenolphthalein and titrate them with a fourth normal soda solution. One c.c. of this ¼ normal solution corresponds to 0.015 grammes of urea, CH_4N_2O."

Journal of Laryngology, Rhinology and Otology (London), October.

Diminished Bone Conduction as Contraindication for Ossiculectomy. DUNDAS GRANT.—The question as to the propriety of the removal of the ossicles is considered here by Grant, and cases of post-suppurative deafness improved by ossiculectomy are reported. He thinks the rule laid down by Politzer, as to diminished bone condition being a contraindication, has its exceptions, and though bone conduction was reduced in these cases reported, improvement was marked. He summarizes his conclusions in the following: The presence of the ossicles may interfere with the hearing power in post-suppurative cases in the following ways: 1. By being fixed themselves, and thereby making the stapes immobile. 2. By favoring the accumulation and retention of desquamative and exudative products which impede the movements of the stapes. 3. By preventing the application of a cotton-wool drum to the stapes. Their removal is under these circumstances justifiable and desirable; if the hearing power is less than for the whispered voice at 1 meter and the bone conduction is good. Even if the bone conduction is diminished to some extent, a slight improvement in hearing may follow the operation of ossiculectomy. A very slight improvement in hearing may make the difference to the patient of being able to follow his employment.

Practitioner (London), October.

Diseases of Stomach and Diagnosis by Chemical Methods. VAUGHAN HARLEY.—In this lecture it is stated that the object is to indicate the chemical methods for diagnosis of gastric disease and show their value. Harley describes the method and technic and the methods of analyses employed. He gives tables showing the analyses in cases of gastric ulcer, hyperchlorhydria, carcinoma and neurotic dyspepsia. He also gives analyses in acholia gastrica and gastric catarrh, which last he believes may sometimes occur due to special irritation, but as far as analysis of gastric contents goes, it corresponds to the ordinary neurotic dyspepsia, that is, total acidity is decreased with a tendency to increase of volatile acids. Mucus is present and generally in excess. The digestive power of the stomach is increased, while its motility may or may not be decreased but is never increased. Treatment may increase the acidity and diminish the mucus and volatile acids, but the cases are difficult to cure.

Hot Air Treatment of Disease.—F. G. DOUGLAS KERR.—The author summarizes his results instead of giving details of cases, as follows: 1. Gout: Here it is a most valuable aid in the acute stage, during which it is not customary to employ thermal baths. Even one bath affords considerable relief of pain, which is appreciated as soon as the temperature rises above 300 degrees, lasts during the bath and continues for hours afterward; in fact, the pain is seldom so severe again. In several cases of acute articular gout he has given two baths daily, one to the whole body in the morning and a local one in the evening to the parts affected, with the result that the attack has been reduced to a matter of days instead of weeks as on former occasions; the results seem, however, to be only temporary unless the treatment is combined with, or followed by, a thermal course. One patient declared that a course of thermal baths at Aix or Bath kept him free for eighteen or twenty months, but that he had had three acute attacks in five months when treated only by hot air, though each attack yielded to the treatment within a few days. The interval between the first and second attack was four months, that between the second and third, barely four weeks. In gout, as in other ailments where there is a marked inactivity of the skin, a few hot air baths quickly restore the function, and the patient is found to perspire much more freely with the mineral baths afterward. While drinking the thermal water this increase of perspiration might be expected to lessen the amount of urine, but the reverse is the case, the elimination being increased for some days after each hot-air bath. 2. In rheumatism he has had no chance of trying the effect of this bath in an acute attack, but should have no hesitation in doing so, and should expect good results would follow. In chronic rheumatism undoubtedly good results after a time have followed its employment, both in the articular and muscular forms. 3. In chronic phlebitis some of the most satisfactory results have been obtained, even in old-standing cases, where swelling was a source of great inconvenience. A marked diminution in the size of the limb resulted from one bath, and, after a further course, the swelling became permanently less, or entirely subsided. 4. In sciatica and other nerve pains the results were conflicting; all persons experienced relief while in the hot air, some cases rapidly improved, while others, starting in a chronic stage, seem to have taken on more acute symptoms. 5. In rheumatoid arthritis the hot-air baths proved more markedly beneficial than any other treatment. In the early and more acute stages the tender and enlarged joints have rapidly improved and the general condition has decidedly benefited, most patients gaining weight during the course In the latter chronic stage, where all inflammation has left the joints, but deformity and fixation remain, little or no benefit resulted from the hot-air treatment alone. In those cases, however, where the joint condition warranted forcible movement under an anesthetic, it was his practice to give a hot-air bath as soon as the effects of the anesthesia passed off, with the result that the swelling and pain were greatly reduced, and subsequent baths greatly hastened recovery of function. 6. In most organic heart cases one would naturally hesitate to use so powerful a form of treatment. In several patients undergoing a Nauheim course, where cold feet and hands were a marked distress, he had excellent results from a few hot-air baths giving during the treatment. 7. In general debility and anemia, where there was no counterindication to their employment, good results came from whole body baths. Even delicate patients, once they get over their first nervousness, bear the baths well; in no single instance did bad results follow their use. 8. In surgical affections of the joints, especially those of stiffening, following the application of splints, the local baths are most valuable, and greatly hasten recovery; the increased circulation also promotes the development of the muscular tissue. To sum up: The hot-air treatment will prove a useful addition to our power of treating certain selected cases. We can not expect impossibilities from it, and should be careful not to be misled by exaggerated trade advertisements; nothing but discredit can result from its too promiscuous use in unsuitable cases.

Revista Medica de S. Paulo, August 15.

Technic of Brant-Paes Leme Method of Preserving Cadavers for Anatomic Studies.—This method has already been briefly described in the Journal, June 24, p. 1438. It has proved a boon indeed in tropical countries. The solution is a mixture of 20 grams commercial formol and 100 grams sodium acetate to each liter of water. From three to eight liters are required for one cadaver. The injections are made with an ordinary irrigator, the olive-shaped tip of the syringe inserted in the carotid and the blood fluid escaping through an opening made in the jugular. When the cadaver is to be kept longer than ten or fifteen days, a stronger solution is used: 600 grams water; 400 grams glycerin; 4 to 10 per cent. formol and 100 grams sodium acetate. The nostrils and mouth must be closed with cotton moistened with formol. The time required, the expense and trouble are minimal and the results most satisfactory, although the method shares with all others the disadvantages that the tissues tend to become hard and discolored in time. Cadavers injected when the abdomen is already green lose their fetidity and become useful subjects for anatomic studies. But the most important advantage of the method is the remarkable attenuation if not total extinction of the cadaveric virulence, which means the absolute harmlessness of scratches received during dissection, etc.

Annales de Dermatologie et de Syphiligraphie (Paris), September.

Defense of the Skin Against Microbes. R. Sabouraud.—The three organs of defense possessed by the skin are the epidermis, the derma, and the migrating white corpuscles. The vascular and nervous systems, etc., are merely accessory. Each of these organs of defense defends itself by the same function for which its differentiated form has prepared it. The epithelial cell defends itself by making horny cells, the fiber cells by making fiber and the white corpuscle by its constant rôle of a unicellular ameboid, seizing the enemy, closing in around it and feeding on it. Every microbian lesion must be regarded simply as a battle-field. This conception is the foundation for all pathologic histology, and unless this is thoroughly understood, the whole phenomenon is a mystery, while once grasped, everything becomes plain: the exfoliation is merely the epidermis defending itself; suppuration merely the leucocytes defending themselves, and the induration merely the mechanism of the fibrous defense. Each tissue, each element, is independently defending itself, and we know that any direct irritation of a living cell induces its multiplication, whether the irritation is mechanical or toxic. The process is a blind, unintelligent process, often defeating its own aim, as when a white corpuscle seizes a microbe and carries it away with it, but is conquered by the microbe. The microbian lesion as we see it, is not a passive scene of destruction by the microbe. It is essentially a cellular reaction on the part of the organism against invasion, a defensive apparatus erected by the organism itself, and this conception of it places dermatology in an entirely different light and renders a new classification necessary. Our present classification is like a pharmacy in which all the drugs are arranged according to the size of the bottles without regard to their contents.

Annales de la Societe Med.-Chir. de Liege, July.

Etiology and Pathogenesis of Pneumonia. L. Beco.—Examination of a large number of cases of pneumonia has convinced Beco that the pneumococci or the pneumobacilli are the causes of pneumonia, and that there is nothing to indicate the participation of secondary microbes in the morbid process. He explains their presence by the extension of the bacterial flora of the upper air-passages to the farthest ramifications of the respiratory apparatus during the agonic or preagonic period which he has established. He also asserts that lobular pneumonia may be accompanied by catarrhal inflammation of the bronchi, but that it has never been possible to produce a lobular pneumonia experimentally with pyogenic microbes, but merely lobular bronchopneumonia. He reports a number of tests and experiences which have shown that the pneumococcus is frequently encountered in apparently normal lungs, that it can live and multiply there in the absence of any pathologic alteration, retaining its virulence intact or attenuated, and that therefore the respiratory apparatus is always in danger when this occurs. The causes that increase the virulence of the morbid germ will affect it just the same in the deep air-passages as in the upper, and there is liability of the occasional factors whose importance is undeniable, such as cold, traumatism and over-exertion, which intervene by rendering the soil particularly receptive for the pathogenic agent already installed there. A reflex congestion with edema, from the action of cold, probably provides the culture-medium in most cases.

Nord Medicale (Lille), October 1.

Foreign Bodies in Child's Esophagus. Phocas.—Kirmisson's hook for extracting coins from the esophagus is proving wonderfully successful. The hook is shown and a case described, where a large coin that had lodged opposite the fourth dorsal, five days before, was extracted at the first attempt, without the slightest difficulty. In inserting the hook the finger is placed between it and the posterior wall of the pharynx, which guides the hook along the posterior wall behind the coin, while it is withdrawn with the finger between it and the anterior wall, when it seizes and brings the coin out with it.

Surgical Treatment of Lymphadenomata. J. Vanverts.—The conclusions reached by the author from study of the ultimate results of intervention and non-intervention are that the former is evidently counterindicated in all cases in which the malignant lesion is no longer localized, either from the coexistence of leukemia or from multiplicity of the tumors. Cases in which the lesions seem to be localized, which left to themselves or submitted to medical treatment alone, are bound to become disseminated at a given moment, justify the hope that radical intervention will result in a cure or at least in long survival, provided that the operation is performed soon enough. But before the matter can be definitely decided a series of prompt interventions with complete histologic and hematologic analysis must be placed on record for comparative study. Experience has demonstrated that ablation of a lymphadenoma of the spleen if localized and aleukemic, may ensure long improvement if not a definite cure. Fifteen out of eighteen cases thus treated are still in excellent health. Two died of recurrence and another after nephrectomy for sarcoma of the left kidney. These are the only cases that have been followed to date out of seventy-five thus operated on. In case of ganglionary lymphadenomata, the difficulty of diagnosing has prevented operation in many cases, but chronic adenitis does not occur as a progressively growing tumor, tuberculosis adenitis is rarely localized in one point. In case of doubt as to the nature of a hypertrophy of a ganglion, it is preferable to remove the ganglion. The operation will be useless in some cases, but it will never be dangerous and it may prove useful in certain others.

Progres Medicale (Paris), September 30.

Artificial Serum in Acute Psychoses with Autointoxication. A. Cullerre.—In acute psychoses accompanied by grave symptoms of autointoxication, subcutaneous injections of a solution of sodium chlorid—7 per cent.—are frequently followed by the rapid disappearance of the alarming symptoms and a general improvement manifested in the re-establishment of the secretions and excreting functions and the disappearance of the sitiophobia. The mental condition is also usually benefited. Eschars heal; the dangerous delirium subsides; appetite returns; and in a case of uremia and alcoholic mental confusion the results were immediately and remarkably favorable. The experience in six cases described, although limited in number, was so unfailingly beneficial that Cullerre does not wait for further endorsement before proclaiming the advantages of this method of treating acute psychoses, combined with other measures usual in such cases.

Revue Hebd. de Laryngologie, etc. (Bordeaux), September 30.

Examination of the Ear After Sympathectomy. Lannois.—Ten persons who had been operated on by Jaboulay, for epilepsy or exophthalmic goiter, were examined and in each case vasodilatation in the external ear and an elevation of the temperature were noted. The congestion extended into the tympanum and varied in duration from a few days to two or three months, the evidences of the vascular perturbation persisting still longer and suggesting that possibly there is here an indication of the possibility of modifying the nutrition of the entire auditory apparatus. The hearing was increased in three cases, similar to the improvement in distance vision noticed by Jaboulay, and which he ascribes to contraction of the pupil. One young man was freed from the buzzing in his ears, which had tormented him since childhood, although not relieved entirely of his epileptic seizures.

Berliner Klinische Wochenschrift, September 18 and 25.

Conservative Treatment of Chronic Suppuration of the Middle Ear. Stetter.—"Wilde's incision alone will cure a number of cases of chronic periostitis of the mastoid process. A fetid secretion from the ear can also be cured by instilling menthoxol and aq. dest. āā, three or four times, applying afterward chinolin-naphthol gauze." "Periostitis of the mastoid process should be first treated with compresses moistened with Burow's solution."

Electrothermo Compresses. E. Lindemann.—A flat coil of the wires used in the writer's hot-air apparatus is isolated with asbestos and wrapped in Mosetig mull. These compresses can be connected with any incandescent lamp, and the temperature raised to 90 C. in fifteen minutes. None of the current passes into the compress. The advantages of this arrangement are the complete control of the amount of heat, the cleanliness and convenience of the compresses and the gradual increase of the heat applied.

Centralblatt f. Gynekologie, No. 38.

A Danger of Incubators. E. Wormser.—An infant placed in an incubator was found dead one morning, suffocated by vomited milk drawn into the lungs. To prevent this catastrophe Wormser suggests that infants should not be replaced in the incubator until a certain interval has elapsed after feeding.

Celluloid Thread. Schlutius.—The advantages of celluloid thread are extolled by the writer, who had not had a single stitch-hole abscess since he has been using it. (See Journal, xxix, p. 1030.) It is strong, easily threaded and tied, and cheaper than other suture materials.

Deutsche Medicinische Wochenschrift (Berlin), October 5.

Technic of Insufflating the Stomach. P. Fuerbringer.—The inconveniences of insufflating the stomach without a special apparatus are avoided by Fuerbringer's present method, the advantages of which are obvious. The sound is introduced into the esophagus, merely half way down, and he blows directly into it with the mouth, squeezing it to close the lumen except at the moment of insufflation. In all his extensive practice he has never had any one object to this use of his breath except one filthy potator who disapproved of the introduction of foreign exhaled matters into his interior.

Monatschrift f. Geburtschilte u. Gynakologie, x. 1.

Weight Therapeutics. J. Halban.—The purpose of this treatment is to exert a regular constant pressure on the inflamed adnexa for an hour, accomplished by elevating the pelvis and placing a bag of shot on the abdomen, and a colpeurynter filled with mercury in the vagina. It is indicated in cases of chronic tumors of the adnexa, free from all fresh inflammatory changes; the amount of pressure very gradually increased. It is also useful in perimetritis and parametritic exudates, and scars after laceration of the cervix. Good results have also been attained with retroflexio uteri.

Sectio Cesarea on Account of Eclampsia. Hillmann.—In the 40 cases of eclampsia on record in which section was made, 21 of the mothers died and 19 recovered; 23 children were saved alive. In the observation reported in detail, the I-para had had seven attacks, there were no labor movements, and in spite of narcotics and wet-packs the condition was menacing. The fetus was found dead. Recovery was smooth except for a severe bronchitis.

Muenchener Medicinische Wochenschrift, September 26 and October 3.

Natural Defenses of the Organism and Means to Influence Them in the Struggle Against Infectious Processes. Hans Buchner.—This communication explains and reconciles the apparent discrepancies observed in the bactericidal action of alcohol, and throws new light on the defensive processes of the organism, the conclusions of long and extensive research, which can be summarized as follows: the substances which constitute the natural defenses of the organism against the agents of disease occur in the blood, blood serum and leucocytes, but Buchner does not consider them special antibacterial substances. He asserts that they are merely the general proteolytic enzymes which have the task, in the organism, of dissolving and making away with all foreign matter that finds its way into the tissues, and of absorbing altered and otherwise superfluous structural parts. These proteolytic enzymes, are not exclusively for protective and defensive measures against the agents of infection. Their bactericidal property is only *one* of the manifestations of their absorbing activity. The blood is therefore the great protector and defender of the organism against bacteria, but merely by this capacity of dissolving and absorbing the morbid tissue-processes caused by the infectious agents and also these agents themselves, and by this means accomplishing, as far as possible, the *restitutio ad integrum*. He adds: "However the exact theoretical conception of these facts may finally be formulated, this much is certain, that practical therapeutics has heretofore failed to derive the advantages from this property of the blood which it might. This failure has been chiefly due to the fact that we have regarded the blood almost exclusively as a substance for feeding the tissues and overlooked its absorbing capacity." "Jacoby and Bier are the only ones who have systematically sought to utilize this capacity. I consider it my task to-day to arouse every one practicing medicine to apply the blood itself as the remedy *par excellence* against bacterial infectious processes. This is best accomplished by increasing the supply of blood in the infected region, and it is obvious that fresh arterial blood will prove more effective than stagnating venous blood as with Bier's method, which probably owes its undoubted success to the fact that the proteolytic enzymes in the stagnating blood are placed in a position which enables them to exert their absorbing capacity to its extreme limit." The benefits derived from the application of hot air, hot water, frozen air, etc., are all due to the arterial hyperemia induced and not to the sweating, etc., to which they have sometimes been attributed. Cupping induces a mixed hyperemia, both arterial and venous, and Bier has recently announced "success surpassing the highest expectations" in chronic articular rheumatism treated with a suction apparatus constructed on the principle of Junod's boot. But of all means of inducing arterial hyperemia the most effective is alcohol. This effect is not due to its bactericidal power, which is very slight, but to its power of inducing the dilation of the blood-vessels by its action on the nerves of the region probably by drawing out the water and possibly by a coagulating effect. The intensity of the dilating effect produced is in direct proportion to the intensity of the water extraction. This vessel-dilating effect of the alcohol is most pronounced on the vessels of the intestines, stomach and mesentery; next on those of the muscular system, and least on those of the skin. It is also proportional to the strength of the alcohol. A peculiar feature is that the nerves of the neighboring regions are also affected which much enhances its effect. The method of applying it found most harmless and effectual is in compresses moistened with absolute or 96 per cent. alcohol, like an ordinary warm moist compress, only alcohol is used instead of water and the compresses are extended to cover the entire extremity or adjacent region, with a perforated impermeable covering outside. They are renewed once a day. Salzwedel has been proclaiming the benefits of these compresses for some time (Journal, xxx, pp. 268 and 1178), and others have confirmed the efficacy in curing phlegmons, lymphangitis, panaritium, mastitis, etc. Buchner appends ten remarkable observations of the cures effected with them in surgical tuberculosis, fungus, etc. One case of fungus had been doomed to amputation, when this treatment cured it completely in four weeks. He was most impressed, however, with its success on carious teeth, in which, under the application of alcohol twice a day, the tooth brush dipped into a tablespoonful of 45 per cent. alcohol in a glass and the teeth and gums well brushed with the thoroughly saturated brush—the caries healed like a phlegmon or an abscess, the pulp becoming daily harder and less sensitive. He urges the application of alcohol compresses in the therapeutics of abdominal and pulmonary tuberculosis to sore throat, etc., suggesting that they may even prove a valuable assistance in bubonic plague, syphilitic gummata, choleraic affections, etc., and adds that the benefits of many preparations like arnica, hair restoratives, etc., are probably due to the alcohol in them, and the success of laparotomy in abdominal tuberculosis to the hyperemia it produces. He concludes with the words: To what extent the leucocytes participate in these absorbing processes by means of their histolytic secretions, is not yet determined. The proteolytic substances of the blood and of the leucocytes theoretically work together. In practice, however, we are not yet able to compel the leucocytes to exert their action at the precise point where it is needed. It is true that with chemical means we can entice the leucocytes to assemble in a certain portion of the body or induce general hyperleucocytosis. But in the former case we can not force the assembled cells to rapidly move on and disperse again, and in the latter we can not concentrate their action at a given point. The blood is free from these difficulties and in the controlled concentration of the blood we have a powerful weapon in our hands, both prophylactic and curative, for the battle against the causal agents of infection.

Action of Mucilaginosa. H. v. TAPPEINER.—A number of tests and experiences are here described which demonstrate that the presence of colloid, mucilaginous substances in a solution does not materially affect the movements of the molecules, and hence that the arrest of molecular movement is not the explanation of their physiologic effect. But there are other movements, such as peristalsis, the motion of the ciliated epithelium, the vibration caused by the pulse-beat and others, and these movements are in fact checked by mucilaginous substances. The labor required to raise or push along a mucilaginous fluid is much greater than with water, on account of the "internal friction."

Peritoneal Sepsis and Shock. O. KUESTNER.—In a number of cases of death from assumed shock after laparotomies, the abdomen was opened a quarter of an hour after death, under the same precautions as for an operation, and loops taken from the operated region, for cultures. In nearly every case, although there had been no indications of peritonitis, streptococci or staphylococci were found, and some slight indications of their deleterious activity, sufficient to account for a possible toxic action on the heart and death from heart failure. Kuestner calls this: "acute peritoneal septic intoxication," and emphasizes the necessity of increased care in sterilizing the region and especially the hands of the operator and assistants; abstinence from infectious activity; extensive use of rubber gloves in infectious operations; application of antiseptic, not aseptic, principles to the hands, and careful selection of the assisting hands, and their restriction to the smallest possible number. Possibly prophylactic gauze tamponning in case of infection might restrict the proliferation and extension of the microbes and their toxins. He considers the Mikulicz tampon a great protection in cases of moderate virulence, but with extremely virulent germs only a serum could act with sufficient promptness, although possibly immediate removal of the stump and gauze tamponning, in case of sepsis after supravaginal amputation, might prove effectual.

Wiener Klinische Wochenschrift, October 5.

Pseudoleukemia and Lymphosarcomatosis. W. TUERK.—The conclusions of this study are that the term pseudoleukemia should be abolished, as it does not correspond to any morbid entity. Also that besides the very frequent partial or generalized lymphomatous tuberculosis of the lymphatic system, there is also an entirely distinct hyperplastic tumor formation in the lymphatic system, the etiology of which is still a mystery, but which Tuerk frees from the misconceptions of the past and erects into a separate group of lesions. These lesions, which have hitherto been partly included in the conception of pseudoleukemia and partly called lymphosarcomata—which includes lymphatic leukemia—all stand in the closest genetic relations to each other, with gradual transitional forms between the chief varieties. All of them can be included under the title lymphomatosis. The chief varieties are lymphomatosis partialis, by which he designates regionary, nondestructive genuine hyperplastic lymphoma formation; lymphomatosis partialis by which he designates regionary, nonlymphomatosis destruens, the transition form between partial or generally destructive forms into lymphosarcomatosis. He reserves the name lymphosarcomatosis for local and primary malignant lymphomatous proliferation, not originating in a general lymphomatosis, but otherwise anatomically identical to a certain extent with lymphomatosis destruens. The cases heretofore diagnosed as primary splenic pseudoleukemia in reality belong to the class of lesions which are best designated as lymphomatosis destruens. Tuerk postpones his arguments in favor of classing lymphatic leukemia with these lesions. He considers it a lymphomatosis in which, contrary to the other forms, the main feature is an increase in the blood-cell-producing function of the hyperplastically diseased organ—lymphomatosis lymphemica. The differentiation of universal lymphomatous tuberculosis and genuine hyperplastic lymphomatosis is best accomplished by the extirpation of a small gland or scrap of hyperplastic tissue for bacteriologic and histologic analysis. In respect to the blood, genuine hyperplastic lymphomatosis is distinguished by the lack of essential changes in the proportions of leucocytes in the blood, or there may be a diminished number of the white blood-cells.

Societies.

COMING MEETINGS.

American Public Health Association, Minneapolis, Minn., October 31.

Oklahoma Territory Medical Society, Guthrie, November 16.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27–28.

Indian Territory Medical Association, Wagoner, December.

Southern Surgical and Gynecological Association, New Orleans, La., December 5–7.

University of Maryland Medical Society.—At the recent meeting of this Society, Prof. Francis T. Miles was elected president for the ensuing year.

Jackson County Medical Society.—At its recent meeting in Kansas City, this Society elected the following officers: president, C. E. Clark; vice-president, A. A. Freyman; secretary, Franklin E. Murphy.

Stafford District Medical Society.—At the ninety-second annual meeting of this Society, held in Dover, N. H., October 11, the following officers were elected: president, E. Jacques, South Berwick, Me.; secretary, Lewis W. Flanders, Dover; treasurer, John R. Ham, Dover; auditor, George A. Tolman, Dover.

Washington Obstetrical and Gynecological Society.—At the 304th meeting of this Washington, D. C., Society the following officers were elected for the ensuing year: president, Samuel S. Adams; vice-presidents, H. B. Deal and G. Wythe Cook; recording secretary, J. T. Kelly; corresponding secretary, Edward E. Morse; treasurer, John Van Renssalaer.

Vermont State Medical Society.—This Society held its eighty-sixth annual meeting in Burlington, Vt., October 13 and 14. The newly-elected officers are: president, M. R. Crain, Rutland; vice-president, George H. Gorham, Bellows Falls; secretary, D. C. Hawley, Burlington; treasurer, E. S. Allbee, Bellows Falls. A full report will appear later in the JOURNAL.

Washington Medical Society.—At the recent meeting of this Society, Washington, D.C., Dr. Woodward read a paper entitled "An Outline of the Principles of Malpractice, from a Medical and Surgical Standpoint." Dr. Prentice reported three cases of paraldehyde habit and three cases of accidental administration of formaldelyde. Dr. Claytor reported three cases of convulsions occurring during typhoid fever.

Fox River Valley Medical Association.—This Association met in joint session with the Northwestern Wisconsin Medical Association, at Oshkosh, Wis., October 17. Besides the scientific papers presented, a surgical clinic was held at the St. Mary's Hospital, for the visiting physicians. The next meeting of the Valley Association is to be January 2, at Stevens' Point, that of the Northwestern at Green Bay, in April 1900.

Iowa State Association of Railway Surgeons.—The sixth annual meeting of this Association was held October 12 and 13, in Ottumwa, and the following officers elected: president, N. C. Morse, Eldora; vice-president, G. G. Cottam, Rock Valley; secretary, Ira K. Gardner, New Hampton; treasurer, E. C. McNeil, Delmar. The next meeting will be held in Des Moines, in October, 1900, the date to be fixed by the judicial committee.

Association of Colored Physicians and Surgeons.—The annual session of the American Medical Association of Colored Physicians and Surgeons has just been held at Louisville, Ky. The newly-elected officers are: president, O. D. Porter, Bowling Green, Ky.; vice-president, Henry Fitzbutler, Louisville; treasurer, F. A. Stewart, Nashville, Tenn.; secretary, Dr. Nowell, Elizabethtown, Ky. St. Louis, Mo., will be the next place of meeting.

International Scientific Association.—The nine most important Academies of Sciences in the world have been holding an international conference at Wiesbaden, which has resulted in the foundation of an international scientific association to promote certain work that can best be accomplished by concerted action. The question of an international scientific language was fully discussed and it was decided that Latin should be adopted once more as the international language for scientific records and English for trade. A Thesaurus Linguæ Latinæ is also planned. Our Smithsonian Institute was represented by Newcomb and Bell; Billings, Remsen and Bowditch also took part in the proceedings.

International Congress of Professional Medicine and Medical Deontology.—The chief addresses announced for this Congress (Paris, July 23, 1900) are: "Fundamental Principles of Medical Deontology," Professor Grasset; "Professional Defense," Porson; "Relations Between Physicians and Lodges, Clubs, Etc.," Cuylit of Brussels; "Organization of Medical Chambers and the Results in the Countries Where They Functionate," Pollak; "Organization of the Physicians League in Hungary," Jendrassi. Numerous other communications are also announced, on the relations of the physician to the state, etc. Treasurer, P. Masson, 120 boulevard St. Germain. The fee for those who wish to take part in the discussions is fifteen francs, but "membres participants" are also admitted for ten francs, or about $2.

International Congress of the Medical Press.—Plans are being perfected for the organization of an international medical press congress next year, during the Paris Exposition. Professor Cornil and Mr. Marcel Baudouin are at the head of the movement and have requested the American associations to send delegates to the Congress. Professor Cornil, senator, has been selected president; Messrs. Lucas-Championniere and Laborde, vice-presidents and Dr. R. Blondel, secretary-general. The date for the organization of the Congress will be determined later. Dr. I. N. Love, St. Louis, Mo., president of the American Medical Editors' Association has appointed the following delegates to the Congress: Drs. J. M. Mathews and Horace Grant, Louisville, Ky.; Geo. F. Butler and Geo. H. Simmons, Chicago; Dillon Brown and Daniel Lewis, New York City; Thos. H. Hawkins, Denver, Colo.; Henry W. Coe, Portland, Ore. Dr. William Warren Potter, president of the American Medical Publishers' Association, has appointed the following to represent this organization: Drs. J. C. Culbertson, Cincinnati, Ohio; Ferdinand King, New York City; Landon B. Edwards, Richmond, Va.; Mr. J. Macdonald, Jr., New York City, and Mr. Chas. Wood Fassett, St. Joseph Mo.

Dr. Charles A. Wilson, Montreal, has been appointed surgeon-major to the Canadian contingent to the Transvaal. With him are associated Surgeon-Lieutenants Osborne and Fiset and probably Surgeon-Major Nattress of Toronto.

Chicago Medical Society.

Oct. 4, 1899.

CASE OF INTESTINAL OBSTRUCTION FOLLOWING VAGINAL HYSTERECTOMY.

Dr. T. J. Watkins presented a specimen consisting of a large metritic uterus and bilateral pyosalpinx.

The patient (Mrs. N. K.), aged 29, had been ill for three years, and for one month prior to operation had suffered severely from pelvic pains, menorrhagia and some elevation of temperature.

The operation was performed at St. Luke's Hospital, Aug. 25, 1899, and consisted of a vaginal hystero-salpingo-oöphorectomy. The cervix was deeply lacerated, everted, and the seat of an extensive erosion which gave a suspicion of beginning carcinoma. Microscopic examination, however, showed no evidence of malignancy. The operation was made in the usual manner; one clamp was used on each broad ligament. Adhesions were extensive and firm over the entire uterus and about the ovaries and tubes. None of the intestines presented into the wound during the operation. The uterus was about twice its normal size, was in decided retroposition, and firmly fixed. Iodoform gauze was placed about both pedicles. The forceps were removed at the end of forty-eight hours. The portion of the gauze about the pedicles was not removed until the fifth day, when douches were commenced.

The patient made a very satisfactory recovery, and was feeling remarkably well on the eighth day, when she was suddenly taken with severe pain in the abdomen, with distension and emesis. She had had free daily bowel movements from the use of a moderate amount of cathartics. An enema produced a free bowel movement after the severe attack of pain. He did not see her until the following day, when she felt some better, although the intestines were so distended that they made ridges across the abdomen. Small doses of calomel were ordered, to be followed by salines. This, with the use of enemas, resulted in a fair movement of the bowels. One-half ounce of magnesium sulphate, in twelve ounces of water, was given later subcutaneously, without any result.

On the following day, the tenth after the operation, Dr. Frankenthal saw her with him, in consultation, and they decided to make an examination under anesthesia, and to do whatever the examination seemed to indicate—possibly an abdominal section. She refused to take an anesthetic except for examination. Examination showed the wound in a healthy state of granulation. Separation of the wound with the fingers revealed a loop of intestine adherent to the floor of the pelvis. This was loosened, as were also surrounding adhesions, and the intestine was packed high in the pelvis, with the patient in complete Trendelenburg position. A rectal tube was passed over the brim of the pelvis, the anus closed about the tube by a purse-string suture, and a two-quart enema given, with negative result. The subsequent use of strychnia, faradism, enemas, etc., proved of no value.

On the following day she consented to an operation. An abdominal section was made and numerous loops of small intestines found bound down in the pelvis by recent and old adhesions. Examination of the intestines after separation of the adhesions showed large areas completely denuded of peritoneum, and some of the intestinal wall was as dark in color as he had ever seen in cases of strangulated hernia. The small intestine was tapped by a large needle, and much gas and about one pint of fluid allowed to escape. The needle wound was closed with a catgut Lembert suture, about one quart of normal saline solution poured into the abdominal cavity, and the abdominal wound closed. The condition of the patient was so bad that it seemed certain that she could only live a few hours. The patient, however, improved rapidly, had a free bowel movement on the following day, and sixteen days later left the hospital in very good condition.

The aspiration of the intestine and the use of the normal saline solution in the abdomen were, he believes, important factors in the recovery. One relieved the pressure on the intestinal wall, and the other floated the intestines up out of the pelvis and was an active stimulant. It is surprising that the patient should have recovered after three days of complete intestinal obstruction. The small bowel movements which occurred after the obstructive symptoms developed were in all probability from the intestine beyond the obstruction.

This case, notwithstanding recovery resulted, emphasizes the advisability of an early abdominal section for intestinal obstruction following vaginal hysterectomy. It would have been impossible to have satisfactorily separated the adhesions through the vaginal wound or through the rectal wall. The operation should have been made one or two days earlier. This case also shows that apparently hopeless cases of intestinal obstruction may be cured by operation.

ACTINOMYCOSIS HOMINIS.

Dr. Gustav Fütterer reported a case of this affection and exhibited specimens.

Dr. A. J. Ochsner stated that the reason so few cases of actinomycosis are found in this country is simply because they are not known when seen. About thirteen years ago Professor Fenger induced him to examine for actinomycosis in the cow, and since that time he has repeatedly found it. He has averaged more than one case a year, because he is in the habit of looking for it in conditions which are ordinarily considered tubercular. Having once become familiar with the gross appearance of actinomycosis, one will discover many cases in this vicinity. All of the cases he has seen have come to him with a diagnosis of either tuberculosis or carcinoma, and in each the diagnosis was confirmed by microscopic examination. In all cases in which there were not large masses of actinomycosis, patients recovered completely on treatment exactly similar to that given cows, namely, a dram of iodid of potash, three times a day, for as many days as the patient could stand it, then stopped for a short time, and then, when they were able to take it, repeated again, and continued in this way until the patient is well.

Oct. 18, 1899.

DIAGNOSIS AND SERUM TREATMENT OF DIPHTHERIA.

The chairman announced this as the subject for the evening's discussion.

VALUE AND NECESSITY OF BACTERIOLOGIC EXAMINATIONS IN ALL CASES OF SORE THROAT.

Dr. George H. Weaver said that all practitioners come in contact with cases of sore throat quite frequently, in which there is difficulty attending the diagnosis and in determining with certainty whether there is diphtheria infection by the bacillus of this disease. A pseudomembranous inflammation of the throat is not necessarily diphtheria, and many cases of sore throat in which there is present more or less pseudomembrane on the tonsils, and sometimes on other parts of the throat, may or may not be diphtheria. Some cases of sore throat with membrane on the tonsils resemble true diphtheria so closely, from their clinical appearance, that in the absence of bacteriologic examination the physician is compelled to consider them diphtheria, and so treat them. If diphtheria is contagious, and is easily transferred from one person to another directly or indirectly, then it follows that a case of this disease should be isolated to prevent the possible transfer of the infectious agent from the sick person to the healthy members of the family. He pointed out: 1. The advantages which come from the universal use of bacteriologic examination in cases of sore throat, thus avoiding inconvenience and unnecessary expense to persons who are not only supposed to have diphtheria, but who never had it at all. 2. The advantage which comes to those persons who have mild diphtheria at first, but afterward develop more severe symptoms and disturbances. The early use of antitoxin in such cases is of decided advantage. 3. The advantage which comes from the early detection of diphtheria bacilli in cases of mild infection where danger to other individuals on account of the great virulency of the disease, is great. By the early detection of these cases the general spread of the disease can be avoided.

CONDITIONS WHICH OBSTRUCT THE PRESENCE OF THE KLEBS-LOEFFLER BACILLUS.

Dr. William K. Jacques said that the clinical symptoms which follow the injection in a guinea-pig, of a fatal amount of diphtheria toxin, are not marked. The pig may be quiet, with a slight elevation of temperature, or it may not show any symptoms that distinguish it from the other animals in the cage until it suddenly drops dead. In the patient the presence of the toxin may not be accompanied with any clinical symptoms. True, in many cases the stupor, enlarged glands of the neck, albuminuria or anuria may indicate the approaching fatal accumulation of toxin, but those may be absent. Since the toxin itself does not cause reliable clinical symptoms, physicians must be put on their guard by those symptoms which usually accompany its production.

In the laboratory, toxin is produced by growing Klebs-Loeffler bacilli in broth; in the patient it is produced by the bacilli growing on the mucous membrane. Surgery has taught us that the inflammation following an external abrasion will be influenced to a great extent by the bacteria with which it is infected. Clinical symptoms may accompany the presence of some of these, such as the pus cocci or erysipelas germs, but the tetanus bacilli may produce a fatal amount of toxin without warning clinical symptoms. What the tetanus bacillus is to external wounds, the Klebs-Loeffler bacillus is to acute inflammation of the respiratory tract, with the exception of the production of membrane. When the site of the invasion is visible this aids diagnosis.

Every acute angina is an invasion of some pathogenic germ. The human mouth presents conditions that permit the residence of many germs. Some of these become pathogenic whenever the mucous membrane is congested or the physical resistance is for any reason lowered. They then invade the tissues and increase the inflammation. Which germ is most active in increasing the pathologic condition will depend on which meets with the least resistance. We should keep in mind that each germ is an individual organism and grows according to certain definite laws of environment. As each organism is a distinct species, its effect on the patient is also distinct and characteristic, but several germs may become pathogenic at the same time and each contributes something to the clinical symptoms.

As the Klebs-Loeffler bacillus is the fatal factor in angina, certain facts regarding it should be firmly fixed in mind: 1. The presence or absence of clinical symptoms accompanying its invasion. 2. The conditions which may obscure these symptoms. 3. Pain and increase of temperature are Nature's danger signals; both may be absent in an invasion of the Klebs-Loeffler bacilli. 4. Diphtheria toxin often acts as a local anesthetic and constitutional depressant. Nasal diphtheria is always painless, and so is the laryngeal form until the obstruction causes dyspnea. When there is pain present, it is because of other irritating germs; to them also the temperature may be due. The irritation caused by accompanying germs may counteract the stupefying effect of the diphtheria toxin and the patient be restless.

Inflammation of the tonsils may be caused by any germ that invades them. Diphtheria may begin as tonsillitis, pharyngitis or laryngitis.

The diphtheria bacillus, owing to the constant presence of so many germs in the mouth, is seldom alone in invading the tissues; and it is the symptoms caused by the associate infection that most often warn the parents. The pain, delirium or fever are not caused by the Klebs-Loeffler bacilli, and this fact often misleads physicians when they are present. There is a tendency to overlook diphtheria when associated with scarlet fever. In scarlet fever the clinical symptoms are so prominent - the painful angina, the rash and the high temperature all engage the attention of the physician, and the presence of the diphtheria germ may never be suspected. By keeping in mind the symptoms of both germs, it is understood how the diphtheria bacillus could be present in scarlet fever and even be the chief cause of death, and its presence not be discovered clinically. The invasion of the diphtheria bacilli may be in the nose or posterior nares, and be overlooked for some time by the physician. Diphtheria infection during the puerperium is likely to be overlooked. There is a wider distribution of the Klebs-Loeffler bacilli now than formerly. Both physicians and the public have less fear of it and are more careless in disinfection. Many doctors do not even take a culture, but think only of the patient's safety, give antitoxin and take no further precautions.

One of the most fruitful sources of scattering Klebs-Loeffler bacilli is the "Christian Scientist" and the faith healer. They disregard every precaution and send their children to school while infected with diphtheria, thereby exposing other defenseless children to the disease.

SUMMARY OF HEALTH DEPARTMENT'S ASSISTANCE IN CONTROL OF DIPHTHERIA IN CHICAGO.

Dr. Adolph Gehrmann stated that the distribution of culture outfits and the free diagnosis were undertaken in September 1894. The outfits now prepared and distributed number over 1000 during each of the winter months. The examination of cultures is at present conducted at the laboratory and at five sublaboratories, while the collection of inoculated outfits is made through the 143 antitoxin stations. The culture outfits now in use are undoubtedly the most convenient and the simplest that can be devised.

Through the medium of the antitoxin staff, the methods most serviceable in combating diphtheria were fully tested and the experience has been an education to the public and to physicians. From the work of this staff the demonstration was made clear that all suspicious cases should be examined by cultures; that the early treatment with antitoxin makes recovery almost a certainty; that immunization with antitoxin is a rational and an efficient measure in prevention. The records of the charity treatment of diphtheria by the Department plainly indicate that the disease can be controlled. The monthly record for four winter seasons, from Oct. 5, 1895, to Feb. 28, 1899, shows a mortality of 6.77 per cent. for bacterially verified cases. The speaker presented a table giving a summary of results of treatment according to the day of its commencement.

There has, however, been an increase in mortality since the first series of cases was treated, and this is in direct relation to the proportion of cases treated on the fourth day or later.

The figures cited by Dr. Gehrmann prove the necessity of prompt administration of a full dose of antitoxin. This can not be too fully appreciated, because when the disease is recognized early and antitoxin is given, there is little reason for death from diphtheria. Early recognition of diphtheria can only be certain when cultures are made in all cases of sore throat. The value of the clinical picture as a means of diagnosis in the beginning of throat infections is gradually being considered of less and less importance.

At present the usual increase of diphtheria toward winter is developing. During the first sixteen days of October there have been 44 deaths recorded, and 237 cases of diphtheria reported—a general mortality of 18.6 per cent. This increase seems to be due to a seeming failure to recognize anything serious in throat inflammations. It is perhaps true that the public's fear of diphtheria is less since the introduction of antitoxin treatment, and the physician is consequently not called until the disease is fully established.

There are some other factors in the spread of diphtheria that seem almost impossible for the Department to remedy. The isolation of patients in private houses and flat buildings is a difficult question. The Department has issued instructions for distribution among families, and instructions to milk dealers for precautions to be observed in cases of contagious disease, but these do not seem to be sufficient in all cases to make the isolation complete.

COMPLICATIONS OF DIPHTHERIA.

Dr. I. A. Abt followed with a paper on this subject, saying that the almost universal use of antitoxin has to some extent changed the clinical course as well as the complications and sequelæ of diphtheria. A study of diphtheria statistics convinces us that the percentage of complications is no greater than in the preantitoxin times. More cases survive now than formerly, and this fact might be sought to explain the occurrence of a greater total number of complications. That complications occur in spite of the administration of antitoxin is to be explained on the ground that antitoxin: 1, was given too late; 2, the dose was insufficient; 3, in rare cases, that the toxins were so virulent and so rapidly acting that irreparable tissue changes occurred before the earliest possible moment that antitoxin could be used; 4, it has been suggested that some cases should be considered as unresponsive to the use of antitoxin.

Septic diphtheria is not, strictly speaking, a complication, but in the vast majority of cases is due to a profound intoxication with diphtheria poison. For this reason Heubner thinks that it would be more appropriate to designate the disease "diphtheria gravissima, or diphtheria maligna."

Bacteriologic examinations in these cases show that nearly pure cultures of diphtheria bacilli may be found; the pyogenic cocci may be absent. In a certain proportion of cases streptococci or staphylococci are present. Some physicians maintain that the severe symptoms are due to secondary infections, principally with the streptococcus. These cases present the appalling picture of the disease which is so familiar to most physicians.

Associated with the local symptoms are severe symptoms of general toxemia and extreme prostration.

Cardiac complications may occur in the mild as well as in the severe forms of the malady. In general, we distinguish: 1, heart paralysis occurring early; 2, heart paralysis occurring late. The first group of cases occur in children who suffer from the grave or septic variety of the disease and are nearly always fatal. The other cases are those in which death takes place after the patient has apparently recovered, i. e., on the third, fourth, or as late as the sixth or seventh week. The most feared of the cardiac complications are those which occur after the local disease has disappeared or the patient is in the midst of the convalescence. If the pulse becomes unusually rapid or very slow during convalescence, the condition of the heart should be ascertained as nearly as possible. More important than a change in the number of pulse beats is a disturbance of the normal rhythm. The pulse in children may be irregular in health, for example, during sleep, or during crying, and under a variety of conditions. The irregularity of the pulse in diphtheria is characteristic; it intermits for one or two beats, or it may become double. Auscultation over the heart frequently reveals an accentuation of the second pulmonic tone; frequently a murmur is heard which is almost always systolic in time. The pathologic condition in the heart causing this murmur has not been satisfactorily ascertained. The heart beats become slower and slower; the patient passes into a comatose state which terminates fatally. Sometimes the cases are more protracted, attacks of syncope occur, and the case usually terminates suddenly, fatally, when the patient attempts to sit up, to move in bed, or to cough. A small proportion of these cases recover after a prolonged convalescence.

Since the mortality from diphtheria has been diminished by the general use of antitoxin, the heart is favorably influenced by this agent, because it is believed that the common cause of death from this disease is due to some heart lesion.

Nephritis is a most frequent complication, and usually begins at the height of the disease. Albuminuria is present in nearly all of the severe cases that have come under observation. There are large quantities of albumin and casts. Anasarca and uremia, though they occur less often in this disease than in scarlatina, are sometimes noted. The albuminuria is not caused by the administration of antitoxin, as was formerly believed. Albuminuria is an expression of the diphtheria toxemia, though it is observed that since the use of the antitoxin the severe cases of nephritis are becoming less frequent.

The author then dwelt upon the diphtheritic paralyses, saying that these manifested themseslves clinically as: 1, early diphtheritic paralysis; 2, post-diphtheritic paralysis, and 3, the hemiplegic forms. These varieties were discussed at length.

SOME RESULTS OF BACTERIOLOGIC DIAGNOSIS OF DIPHTHERIA.

Dr. F. E. Wynekoop contributed a paper on this subject. Cases which clinically seem to be tonsillitis, on bacteriologic investigation, are often found to be more grave infections. On the other hand, what appears to be diphtheritic inflammation is, in some instances, but extreme manifestation of less serious disorders.

Bacteriologic methods are of the very greatest importance in the diagnosis of all pathologic conditions of the throat. They are the means of a scientific diagnosis, and thus make possible a rational, effective treatment. During the past few years many thousand cases of suspected diphtheria have been examined microscopically in Chicago's municipal laboratory, and results obtained from a consideration of 500 examinations, made within the last few months, represent in a fair degree the results obtained during the entire period the city has been making such diagnoses. Of the cases tested, about 36 per cent. were true diphtheria. The percentage does not seem high when it is remembered that in the majority of instances in which an examination was requested, the physician in charge held a suspicion that the Klebs-Loeffler bacillus might be present. Staphylococci and streptococci were found in 52 per cent. The influenza bacillus was present in 5 per cent. of the examinations, the pneumococcus in 4 per cent., and miscellaneous organisms in 3 per cent. Those which were demonstrated to be diphtheria represented all grades of severity; many with symptoms so marked that a clinical diagnosis could be made with little difficulty; others with manifestations so mild that they would pass for simple inflammations. Indeed, a probable clinical diagnosis of tonsillitis was given in 16 2/3 per cent. of the cases found to be genuine diphtheria. The staphylococcus and streptococcus infections also presented considerable variation in severity. A few exhibited symptoms of a grave character, and a goodly number were of a moderately serious nature, so much so that a probable clinical diagnosis of diphtheria was made in 32 per cent. of these affections. The influenza bacillus may produce a condition of the tonsillar and pharyngeal mucous membrane simulating diphtheritic inflammations—redness, swelling, pain, and a well-defined membrane. In 25 per cent. of the influenza throats the manifestations were sufficiently characteristic to warrant the clinical diagnosis of diphtheria which was made by the attending physician. The pneumococcus at times produces a diphtheritic condition, a membranous inflammation which is not easy to distinguish from true diphtheria. A clinical diagnosis of diphtheria was made in 40 per cent. of the pneumococcus infections.

DR. FRANK BILLINGS directed attention to the ashy-gray pallor which occurs early in diphtheria, associated with weakness of the child, as manifested by a feeble voice, rapid or irregular respiration, and rapid pulse. In these cases, beginning early, even though the bacteriologic examination be negative, he gives antitoxin in all throats that show any membrane whatever.

California Academy of Medicine.

September Meeting.

UNILATERAL HYDRONEPHROSIS FROM INTRAVESICAL TUMOR.

DRS. TAIT AND CAGLIERI presented some specimens, removed at post-mortem. The patient, a woman, aged 74, presented very marked diffuse atheroma, but no history of either renal or vesical lithiasis, nephroptosis, or traumatism. In November, 1898, she first noticed what she called a painful lump in the right hypogastric region, immediately below the anterior border of the liver. This very rapidly increased in size, but the pain did not increase in due proportion, nor did it become constant. Hematuria was first noticed shortly afterward, and occurred several times during the next five months. Dr. Tait examined the patient in May, 1899, and detected a tumor, manifestly of renal origin, irregular in outline, movable, slightly painful on palpation, and approximately 20 by 25 cm. The patient had never failed to find the mass since the day she first noticed it. The urine averaged 1200 to 1500 grams daily, and contained albumin and a few blood-corpuscles. The diagnosis of carcinoma of the right kidney was made. On account of her advanced age and marked atheromatous condition no operative measure was considered, and she died three and one-half months later of pulmonary congestion.

The necropsy showed an enormous hydronephrosis on the right side, not a trace of the kidney parenchyma being detected. The corresponding ureter was dilated in its upper two-thirds, to four times its natural size, and the lower one-third contained blood clots. There was no stone, stricture, torsion nor adhesion in the course of this ureter. On opening the bladder the cause of the hydronephrosis became immediately evident: a soft papillomatous tumor had developed at the site of and surrounding the right ureteral orifice.

Dr. Caglieri made slides from the tumor, which do not seem to indicate a malignant growth. Hydronephrosis from intravesical tumors is well known, and in fact is described in many elementary text-books. This, however, is the first case Dr. Tait has seen in which the vesical tumor was not malignant.

The case illustrates the possibilities of error in the differential diagnosis of renal tumors, and also the absolute necessity of instruments of precision and of careful chemic and histologic examinations in the study of such cases. Had the cytoscope been resorted to in the case here reported, the diagnosis would have been cleared up instantly.

Dr. Guido Caglieri spoke of the patient's heart. The question of the occurrence of centric hypertrophy of hollow organs has been disputed for some time, and he believes it is now granted to be a fallacy, with the possibility of the single exception in the case of the heart. He said that in the London University Museum there is a specimen labeled "concentric hypertrophy of the heart," and if it is such, it is the only specimen with which he is acquainted. When the heart of the patient under discussion this evening came into view at the autopsy, he was surprised at its weight and its small size. It was very heavy, but not at all large. The left ventricle, while about normal in size, possessed an extremely thickened wall, a small cavity, and at the basal orifice a ring of calcareous deposit.

He wished to share with Dr. Tait the responsibility for the diagnosis of malignant growth of the kidney. After the autopsy there was nothing to really make one suspect a malignant growth of the kidney, except the age of the patient, taken in connection with the tumor and the pain. He, too, thought that had the cystoscope been used the correct diagnosis would undoubtedly have been made. A correct diagnosis would not, however, have altered the status of the case in the least, for the age and condition of the woman rendered any operative interference out of the question.

DR. D. W. MONTGOMERY said that it is not at all easy to make a differential diagnosis between malignant and benign growths of the bladder, even with the cystoscope. So many of the vesical growths start as simple benignant tumors, and eventually become malignant, that simple inspection even with cystoscopic aid is hardly enough on which to make a diagnosis. Albert of Vienna called attention to the fact that these malignant tumors of the bladder usually occur at the base of the viscus, and that they to a certain extent bore down into the subjacent tissue and implicate the mucous membranes of the rectum. Normally this membrane is very freely movable, but when a malignant growth is above and making pressure on it, it loses this free elasticity. He introduced his finger into the rectum of a patient presenting a doubtful diagnosis and at once expressed the opinion, based on the feel of the mucous membrane, that it was a case of malignant growth of the bladder. Subsequent autopsy showed the truth of his assumption. This sign would not be of so much value in women, for the reason that the tissues above the vagina are normally less freely movable than are those above the rectum. Dr. Chismore has a very ingenious way of treating these cases of neoplasm of the bladder when the factor of hemorrhage is an important one, he said. He simply grasps the shreds of the tumor in the eye of his lithotrite and twists them off. The torsion prevents free hemorrhage, and it is surprising how much relief he secures by this procedure. Many of his cases so treated go for a long time with no hemorrhage. When it recurrs he repeats the process.

DR. THOS. W. HUNTINGTON was of the opinion that the proper diagnosis could have been made correctly by the use of simply the old and well-recognized methods of examination. When mechanical devices are obtainable and are capable of assistance, they should be used; one should not, however, employ them to the detriment of his sense of touch.

DR. ALONZO E. TAYLOR thought a section at the base would add more light to the somewhat obscure question of the true pathology, and that the tumor was cylindrical carcinoma, polymorphic cells being visible, which are known to be suggestive of these growths; also penetration of the basic membrane exists, and interstitial infiltration and polynuclear leucocytes.

DR. J. HENRY BARBAT spoke of a patient, the opening of whose bladder demonstrated the value, or rather the lack of the value of the cystoscope. There was considerable hematuria and the diagnosis was rather difficult. With the cystoscope what appeared to be a papilloma at the base of the bladder was seen; when touched it bled. On operating he found the lateral lobes of the prostate greatly enlarged and the central lobe normal. There were a few very small excrescences on the mucous membrane, which might have been commencing papillomata. He is more and more impressed with the folly of thinking that we can look through the cystoscope and make anything like an accurate diagnosis of the conditions within the bladder.

Dr. Philip King Brown, as some discussion arose as to the value to be placed on measures which purported to obtain the urine from the two kidneys or from the two ureters, unmixed, mentioned a case in which Dr. Chismore, with the Harris instrument, obtained the supposedly unmixed urine of a man on two different occasions. Analysis showed the samples of the two urines taken at the different séances, to be practically a safe guide, as the results did not materially differ. The urine from one kidney was exceedingly scanty, while that from the other was plentiful. The diagnosis based on these examinations was later confirmed. He had also made use of the method personally on several occasions and thought it was quite reliable.

Dr. Dudley Tait, in closing the discussion—Dr. Huntington has given us a very good demonstration of his ideas, but his closing statement is rather in conflict with what he said at first. I admit that the diagnosis should have been made. Had it been, however, it would not have altered the eventual result of one case. But Dr. Huntington said that purely rational means would have disclosed the hydronephrosis, and that then the ureter could have been explored. He could not explore the whole course of the ureter without making use of the cystoscope and the ureteral sound or catheter, unless he resorts to a formidable operation. In regard to X-ray examinations as an aid in the diagnosis of renal calculi, Dr. Philip M. Jones has examined some patients for me, in whom the clinical picture of stone was clear. In two cases the results were purely negative, and in these I believe the calculi are uric acid accretions. Obviously they would not be detected by the X rays.

Dr. Huntington said he did not mean to advocate the exploration of the ureter by means of the cystoscope, nor yet by laying open the abdomen over its whole course. It is perfectly possible to exclude ureteral obstructions, etc., by purely rational methods and without operation or catheterization. On being asked what means he would employ in the exclusion of the ureter, without making use of the cystoscope or operating, he said that absence of pain, absence of the pain and painful sensations on pressure, and absence of all subjective signs implicating the ureter, would be sufficient.

Dr. S. J. Hunkin mentioned the case of a man recently in his care. There was pain in the right side, hemorrhage, etc., and pus could be found coming from the right ureter. The case was referred to Dr. Chismore, who advised operation. The man refused. Later he came again and requested operation and it was then refused. He died shortly after and it was discovered, on autopsy, that he had but one kidney, in the median line, the ureter from which branched at about its middle point. Dr. Hunkin asked what would have been the course pursued in such a case. The kidney, he stated, was one mass of small stones and no kidney tissue could be discovered.

ECTOPIC TESTICLE.

Dr. Dudley Tait exhibited a testicle which he had removed at autopsy, from a man of 71. It was undescended and had always been in the inguinal canal. It had given him no trouble until a short time before Dr. Tait saw him. Three days after using a catheter for overcoming retention due to prostatic enlargement, he noticed pain in the right inguinal region, and was ordered ice applications and rest. The trouble was supposed to be an epidydimitis of the undescended testis. All trouble subsided in eight days and he went about his ordinary duties. He died from pulmonary consumption three and one-half weeks later, and a suppurative epidydimitis of the undescended testis was found. Spermatozoa were found in its tissue. The contained pus was sterile. Dr. Tait also referred to the method of placing the testicle in an extra peritoneal pocket, in the modified Bassini operation for hernia, as first advocated by Dawbarn and subsequently adapted by de Gormo and Lanphear.

Dr. Huntington said the question of ectopic testis is of particular interest as it relates to the changes in the testis in late life. He used to extirpate these testicles, but has recently employed the method suggested by Dr. A. D. Bevan, Chicago. (See Journal, September 23.) The vas is loosened high up into the peritoneum and thus the extension of the cord is permitted, allowing the testicle to be replaced, or rather *placed* in the scrotum. It seems possible in this way to put the testis into the scrotum and have it remain there, which is certainly a better plan than extirpation. He asked whether it is probable that tubercular disease of the testis could be the primary tubercular lesion, with constitutional tubercular disease following as a secondary invasion. He now has under observation a man who developed tubercular disease of the testicles some years ago, and has only within the last two years exhibited any symptoms of pulmonary tuberculosis. Certainly three or four years elapsed between the development of the tubercular disease in the testicles and its appearance in the lungs and larynx. The present trend of authoritative opinion is to operate when the operable lesion is one of primary infection, as for instance primary joint tuberculosis, but that if the local lesion is secondary to lung involvement operative measures are not advisable.

Dr. Tait said "the method of treating the ectopic testis in hernia operations described by Bevan, originated with Broca, several years ago."

Dr. Harry M. Sherman said it was better to remove such a testicle than to allow it to remain; but better to place it in the scrotum when such a course was possible. In the abdomen the testicle may give rise to unpleasant consequences.

Dr. Harry M. Sherman, in reply to the question raised by Dr. Huntington as to tubercular infection of the testis, thought we might consider tubercular infection of the testicle somewhat in the same light in which we consider tuberculosis of bone. In bone tuberculosis, about 21 per cent. of the cases are of primary invasion; the other 79 per cent. are secondary to tuberculosis somewhere else. In Dr. Huntington's case it would be very difficult to say which infection was primary. Glandular infection elsewhere, with broken-down tubercular tissue, may have led to the secondary involvement of the testicles. Dr. George Chismore says that it is not wise to interfere with tuberculosis of the testicles, and certainly he has convinced me that if left alone they do remarkably well. He remembers one case in particular in which Dr. Chismore stood between the man and an operation, and the man has now lived a thoroughly useful life for many years and is in the best of health.

Dr. Philip King Brown said that there may be a primary infection of the testis, or rather of the epididymis, with infection of the lungs following as a secondary lesion. Tuberculosis of the epididymis is not at all rare, though it is not common General, or at least pulmonary invasion is very liable to follow any operative measure except complete removal. Curetting of tuberculous testicle is very commonly followed by an extension of the disease.

Dr. A. E. Taylor thought that the mathematical chances of the tubercular invasion of the testicles in the case mentioned by Dr. Huntington being one of hematomatous infection, were very small indeed. Here the infection may have been from some primary infection in neighboring tissue, but was probably secondary to a tuberculous infection of the lungs, which had remained quiescent for a long time. It is absolutely impossible to tell within a very great range of time, as to the date of a tuberculous infection of the lungs. It may be weeks or months or years old, when examined at the post-mortem.

Dr. Tait said that the treatment of tuberculous lesion of the testis and epididymis was very thoroughly discussed in a series of meetings of the surgical society of Paris. The great majority favored conservative methods and the conclusion was arrived at after an extensive trial of the radical method. These same authorities would, however, adopt radical measures in renal tuberculosis primary.

Mississippi Valley Medical Association.

Abstract of Proceedings of the Twenty-fifth Annual Meeting, Held at Chicago, Oct. 3-6, 1899.

(Concluded from Page 1043.)

TREATMENT OF PULMONARY TUBERCULOSIS BY INHALATION OF ANTISEPTIC NEBULAE.

Dr. Homer M. Thomas, Chicago, read a paper with this title. Nebulization is supportive only, but is of great value as a secondary factor in the treatment of tuberculosis. It aids in establishing a barrier around the tubercular area by stimulating cellular structure to resist the germs and their toxins. The beneficial effects of nebulization are to: 1, control the cough; 2, relief of dyspnea; 3, intimate contact of the nebulæ with much of the respiratory cavity, and, 4, inhibition to the extension of the tubercular foci.

Various remedies were mentioned, and special attention called to formalin in from 4 to 20 per cent. solution, depending on the patient's ability to stand a weak or strong solution. The nebulæ penetrate wherever the air does and are, by means of phagocytosis, conveyed through the blood and lymphatics to the tubercular overgrowth. While they do not reach the encapsulated tubercular area, they inhibit extension of the disease. The atmosphere of the room as well as the respiratory passages must be saturated with the medicament.

Clinical experience having proven the value of vaporized medicaments in tuberculosis, further trial and investigation are justified.

Dr. T. B. Greenly, Meadow Lawn, Ky., stated that he had for some time past been using a mixture of formaldehyde and ammonia with the most salutary results. The ammonia enables the patient to bear more of the formaldehyde vapor and the system thus becomes more rapidly immune to the toxins of the tubercle bacillus. He has lately been using urotropin, a combination of formaldehyde and ammonia, and it, inside of ten to fifteen days, thoroughly disinfects the sputum, and it is absolutely free from bacilli. This treatment, with the addition of tonics, increases the patient's appetite, the cavities heal more rapidly, and a speedy recovery results. Urotropin acts equally as well in bone tuberculosis. He also uses iodin and theobromin in phthisis, with massage twice daily so as to get the action of the iodin in the circulation without imposing on the stomach. Perfect satisfaction has followed this treatment in his experience of over one hundred cases of tuberculosis.

Dr. Charles L. Minor, Asheville, N. C., called attention to the fact that a combination of formaldehyde and ammonia completely destroys the action of the former, and therefore the good results which Dr. Greenly obtained could not have been due to the inhalation of formaldehyde. He expressed his gratification that Dr. Thomas regarded the inhalation of medicated vapors as an adjuvant only. In his experience patients who inhale simply the air around them did as well as though medicated vapors had been used, and pure air has the advantage of producing no irritation whatever.

Dr. J. M. Patton, Chicago, congratulated the essayist on the conservative view taken of the therapeutic effects of inhalation of medicated vapors. Neither inhalation, nor the injection of different oils into the respiratory tract has given any definite results as far as a cure is concerned, which really can not be expected in view of the existing pathologic changes.

Councilman has demonstrated a collateral zone of congestion around the tubercular area, which contains no tubercle bacilli, but has sufficient circulation to admit of absorption and poisoning. These areas prevent anything from reaching the tubercular area itself. The failure of serumtherapy demonstrates the futility of reaching these areas through the circulation; nevertheless beneficial results follow the use of these measures as they lessen the cough, diminish bronchial secretion and improve the respiratory function. In chronic bronchitis great good follows the use of vaporization, as anything that will lessen bronchial secretion will correspondingly lessen the dangers of secondary infection from the tubercular areas.

As to the possibility of considerable good arising from the absorption of the vapor through the bronchial membranes into the system, Dr. Thomas is illogical.

Dr. Thomas, in closing, expressed his gratification at hearing the good results which Dr. Greenly has had with formaldehyde and ammonia. Inhalation is advocated only as an adjuvant, the only value, if none other, being in the deep breathing which it excites and the psychic impulse created in the use of nebulæ, which is not the case when air is used. This effort at deep breathing is very much to be desired in the impaired respiration of tuberculosis. The author expressed the belief that "we are strong in medication, and weak in therapeutics."

DO WE NEED TO THINK?

Dr. Wm. O'Neal Mendenhall, Richmond, Ind., read a paper with this title. He presented a report of a peculiar case of hereditary nervous diarrhea in a young man, indirectly caused by a fall of the mother, producing a fracture of the coccyx. Treatment consisted of strychnin, to act as a nerve tonic, and ergot to act on the circular muscle fibers of the bowel, regulation of diet and hygiene. A complete recovery resulted.

THE EVILS; THEIR CAUSES AND THE REMEDY THAT WILL EDIFY MEDICINE IN THE UNITED STATES.

Dr. A. M. Osness, Dayton, Ohio, read a paper, in which the evils are held to be "mushroom schools," antagonistic pathies, overcrowding in the profession, lack of scientific spirit among medical teachers, undue ostentation, and unscrupulous intrigues in the profession. The causes of these are: 1, paltry remuneration for professional services; 2, the fallacy of a profitable notoriety. The author suggested as a remedy the regulation of schools and professorships, obligatory interneships of all graduated, conditioning diplomas revocable for unprofessional conduct, charity hospitals to be under the supervision of medical men, the encouragement of strictly prescription pharmacies.

Dr. Wm. F. Barclay, Pittsburg, Pa., felt that there was an implied disparagement of the American physician. He is of the opinion that physicians in this country compare favorably with those educated abroad, and that our schools and colleges are equal to any and superior to many of the foreign schools. We have the advantage over the foreign physician in thoroughly understanding our own language, but that ought not to be offered as an excuse for any disparagement of American physicians and American institutions. Much that the essayist said is worthy of appreciation, especially his reference to charity work, as it is difficult to know just where charity ends and imposition begins. The points about the dispensing pharmacists were well taken, but much has been done to lessen the demand for proprietary medicines by placing them in the general stores at the least rates. The question as to how to remedy all these evils is a very difficult one to solve.

Dr. E. M. Epstein, Chicago, remarked that all American physicians are very well received in Europe. The only remedy for all the evils portrayed by the essayist, in his estimation, is to have representation in the cabinet of the President of the United States, by the secretary, who is to be appointed or elected irrespective of politics. Then we would have some one to speak for us and to look after our interests.

Dr. John Punton, Kansas City, Mo., believes the remedy rests with the physicians themselves, who must enter politics and be willing to go to the legislature to demand the rights which are due the medical profession, and as long as this is not done we can not expect to be recognized by the Government.

Dr. C. M. Skinner, Hartland, Wis., speaking for the pharmacists, said that they had been forced to resort to counter prescribing, by the doctors, who, in the majority of instances, use their own medicines and even went so far as to dispense hot water bottles, syringes, etc.

Dr. C. J. Lewis, Chicago, agreed with the essayist that it is impossible for a scientific investigator to be engaged in any commercial pursuit at the same time. We certainly ought to have a supervising mind in the Cabinet at Washington, and in this way only can our many professional evils be remedied.

TWO CASES OF TYPHOID FEVER WITH UNUSUAL COMPLICATION IN VERY YOUNG CHILDREN.

Dr. E. B. Montgomery, Quincy, Ill., presented this paper, reviewing the literature on typhoid fever occurring in infancy and childhood. He reported two cases. One, aged 9 months, presented symptoms simulating a tubercular meningitis, recovery taking place on the twenty-third day. The second case developed a suppurative parotitis about the twenty-fifth day, with aphasia. After surgical treatment of this condition recovery resulted on the forty-fourth day. A search revealed but three cases in which there was involvement of the submaxillaries. He also mentioned one unreported case which occurred in the practice of Dr. Rook of Quincy.

Dr. J. O. Malsbury, Peru, Ind., believes that typhoid in infants under 6 months is more common than is generally supposed, and that cases are often wrongly diagnosed, being termed "catarrhal fever." A very important diagnostic point is to determine the proximity of typhoid in the neighborhood, or whether it has existed in the family some months prior to the present case. This has occurred in his practice several times.

Dr. Archibald Church, Chicago, believes that meningeal symptoms are very common in typhoid, but are taken too much as a matter of course, and little attention paid to them. It has been proven by culture experiments that the typhoid bacillus or its product enters the cerebral cavity. A certain amount of cerebral disturbance is expected in every case of typhoid, and it is the symptoms which make the diagnosis between typhoid and meningitis difficult. In the case presented there was no doubt an invasion of the cranial contents the same as occurs in the intestines and elsewhere. That recovery takes place after a severe invasion is proved by noting the percentage of recoveries from typhoid with marked cerebral symptoms.

FURTHER OBSERVATIONS ON THE TREATMENT OF THE ABDOMINAL VISCERA THROUGH THE COLON.

Dr. Fenton B. Turck, Chicago, read a paper in which he dwelt particularly on the importance of colonic lavage in the treatment of all diseased conditions of the bowel. He explained his method, very fairly illustrating it by a series of experimental reports.

Dr. Wm. F. Barclay, Pittsburg, Pa., expressed himself as being very much opposed to the indiscriminate injection of large quantities of water into the bowels. He was pleased to learn that Dr. Turck uses only a small quantity of water, as large quantities have in his experience proven to be injurious. He especially condemned the use of syringes, as they destroy the muscular tone of the bowel and a constipation is set up which is almost irremediable. Cathartics, too, are unpleasant to use, but cathartic medication in conjunction with regulation of diet is to be recommended.

Dr. T. Wertz, Evansville, Ind., sees no reason why the bowel should not give out the same as any other organ. Many persons are incapacitated for business on account of constipation, and from the constant use of cathartics their stomachs have become irritable, so that they are obliged to resort to water enemas. In cases where there is a paralysis of the bowel or insufficient peristalsis, water enemas are the remedy. Many lives have been prolonged by the use of food enemas when the stomach is non-retentive and needs a rest.

Dr. C. J. Lewis, Chicago, thinks that there is a general agreement at the present time that the saprophytic bacteria in the intestinal tract are largely the cause of appendicitis. Colonic lavage facilitates diagnosis, as we need only to unload the bowel of its accumulated bacterial infection in order to make possible more accurate palpation of the appendix and thus determine its condition of inflammation.

Dt. Thomas J. Schuell, Parnell, Iowa, for many years believed himself to be the originator of colonic lavage in the treatment of appendicitis. The usual idea is to unload the cecum, but by using water at 110 F., it will not only unload the cecum and colon, but it will at the same time excite the peristalsis of the cecum as well as the appendix. Many cases of appendicitis are due to impaction of the colon producing paralysis of the muscle fibers and the formation of a ball-valve action of the cecum and by means of a slight shock, such as jumping, the fecal matter is forced into the appendix, bacterial decomposition sets in, inflammation, necrosis and pus formation. Colonic flushings should be given every three or four hours for the first twenty-four to thirty-six hours, and after four or five flushings beneficial results are very apparent.

Dr. Turck, in conclusion, emphasized the value of using the colon as a means of treating the abdominal viscera. It is not the quantity of water so much as the temperature which procures the characteristic reaction. Hot water draws out the water from the intestines, and the original injected quantity is thus increased. The temperature raises the body temperature two or three degrees, and, like cold, is a vasomotor stimulant. Fecal matter is a normal stimulant to peristalsis and the same effect can be produced by artificial stimulants. This can be done by means of small quantities of water, and when it is desired to produce gymnastics of the bowel, hot air is urged, and it acts on all the abdominal viscera at the same time, as a stimulant.

Toronto Clinical Society.

Oct. 4, 1899.

Dr. J. A. Temple called the attention of the members to the fact that this was the first meeting of the Society since the death of one of their most prominent members, the late lamented James Elliott Graham, and moved for a committee to prepare a memorial to the widow and family of the deceased.

USE OF PEPTONE IN TYPHOID FEVER.

Dr. Fred Fenton read a paper on this subject and recorded the history of two cases in which he had employed this plan of treatment successfully. One patient was a man of 21 and the other a boy of 11 years old. On account of difficulty in swallowing, in the first case, and lack of desire to take nourishment in the second, both patients were fed per rectum, exclusively. The whites of hard-boiled eggs with milk peptonized by pepsin and HCl were employed in the first case, and th patient put on flesh even during the presence of fever. In th second the whole of the egg was used and the preparation wa made with liquor pancreaticus. When the bowel became irritable, a few minims of liquor opii sedatives were used. Both patients developed pneumonia. Recovery was noted in both

Dr. W. B. Thistle, in discussiong this case, stated that h had never had occasion to revert to rectal feeding in this disease. He found that the milk prepared with the peptogeni milk powder answered exceedingly well and was well borne by the stomach.

MICROSCOPIC DEMONSTRATION.

Dr. Graham Chambers then demonstrated, microscopically the *microsporon Audouini* and the *trychophyton miaglosporon* and stated that 70 to 80 per cent. of ringworm in the scalp of children is due to the presence of the microsporon Audouini Cases due to this spore can be cured in from two to thre months, while those due to the small spore variety will probabl take a couple of years.

FRIEDREICH'S ATAXIA.

Dr. W. B. Thistle reported a case of this in a boy of 1 years, which had first appeared at 4 years of age. The fathe was healthy, a German, and had never had syphilis; no history of the grandparents could be obtained. Two aunts, sisters o the father, were afflicted with the same complaint, as was als an elder brother of 14, and in whom the disease first appeare at 7 years of age. The condition has come on gradually an the patient presents peculiar lack of facial expression, hi head inclines to one side and there is marked incoördinatio of the muscles of the upper extremities. Marked hammer to and equino varus are also to be noted. There is no nystagmu and no scoliosis. Incoördination in the lower muscles is als well marked. Dr. Thistle then dwelt minutely on the symptoms, diagnosis and prognosis of this disease.

Dr. A. J. Harrington exhibited a femur taken from an ol lady of 78 years who had died as the result of a fracture of this bone. It showed marked friability.

Orleans Parish Medical Society.

New Orleans, Sept. 23, 1899.

AMPUTATION VS. EXCISION OF ELBOW.

Dr. Hermann B. Gessner read a paper entitled "Amputation Through the Arm versus Excision of the Elbow; a Case o Conservative Surgery." This paper will appear in the Journal

HARRIS' URINE SEGREGATOR.

Dr. R. Matas exhibited the segregator invented by Dr. M L. Harris of Chicago for the purpose of obtaining, separate the urine from each kidney, as previously described in the Journal.

Dr. Matas had used the instrument successfully in two cases: in one, a case of suspected malignant disease of the kidney, clear urine had been obtained from one side, but from the other blood-tinged urine containing particles now being examined by a pathologist; in the other case, a diagnosis of pyelitis in one kidney was determined by this method, while the other was shown to be doing such vicarious work as would permit the safe removal of its diseased fellow.

PUERPERAL ECLAMPSIA.

Dr. T. S. Dabney reported two cases of this condition, occurring in primiparæ under 20 years of age, within two weeks of term; in both the os had been dilated and the child delivered with forceps; both patients were recovering. In the one, veratrum viride had been administered; the other had been treated with chloral and bromids given by enema.

SYMPTOMS FROM USE OF VAGINAL DOUCHE NOZZLE.

Dr. C. Jeff Miller detailed two cases in which unpleasant symptoms had followed the use of a vaginal douche-nozzle provided with a terminal opening only. In one instance a married woman, aged 20 years, who had borne a child eight months before, at the close of a menstrual period, took a douche of warm water through a nozzle of the kind referred to. She was taken with a cramp in the abdomen, attended with such excruciating pain as almost caused loss of consciousness. The patient was confined to bed one week, suffering from localized peritonitis. There was, on the right side of the pelvis, a mass the size of an orange, which had gradually disappeared. The uterus was found a little prolapsed and retroverted, the fundus pointing toward the promontory of the sacrum.

The other patient was a colored woman who was confined t her bed for four days after using an open-end douche-nozzle fo vaginal irrigation at the close of a menstrual period; she ha suffered from peritonitis, with tenderness on the left side of th pelvis.

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SATURDAY, OCTOBER 28, 1899.

HE FORMATION OF VISCERAL CASTS OR MOLDS ON SEROUS MEMBRANES.

Bamberger, nearly forty years ago mentioned the nclosure of the liver in a delicate membrane, without oteworthy alteration in structure or function of the iscus, although the condition may be complicated by he development of symptoms of interstitial hepatitis. ome twenty years later the subject was again taken up y Curschmann, who attributed the resultant ascites o compression of the liver in consequence of a chronic broid perihepatitis. In common with cirrhosis of the iver the morbid affection under consideration is atended with reduction in size, change in shape, and inrease in density of that organ, together with ascites. he course of this peculiar disorder is far more proracted than that of cirrhosis, and its onset is sometimes cute, with symptoms of local peritonitis. Cases have een reported, further, by a number of other observers. s the disease may persist for a considerable number of ears, the changes found at autopsy are usually so old, o advanced and so extensive that it is difficult in an ndividual case to determine the primary seat of the isorder. Cases, therefore, in which death takes place t an early stage, possibly in consequence of some inercurrent disease or complication, are of especial inerest. An illustrative instance is reported by Rose[1], ccurring in a shoemaker, 56 years old, who came unler observation on account of copious hematemesis. The atient complained of shortness of breath on physical xertion, especially on ascending stairs, and of some pigastric oppression after the ingestion of large meals. He admitted a history of alcoholism, but denied that of syphilis. He had been dropsical three years previously, but was no longer so. The man was slightly icteric, and apparently anemic. The pulse was 66, regular, slow, of moderate tension and sclerotic. The general nutrition was impaired. The lower border of the liver was distinctly palpable four fingers' breadth below the costal margin. The spleen was also palpable. The abdomen was distended, but free from effusion. The urine contained neither albumin nor sugar. There was no vomiting. The temperature was subnormal. The condition of the patient continued satisfactory, until he was suddenly seized with a chill, followed by elevation of temperature, and perturbation of consciousness, which progressed to coma, and finally terminated in death. On post-mortem examination the calvarium was found to be thick, the pia mater turbid, the brain moist. The heart was dilated, the pericardium normal, and the myocardium brown, softened, and striated in places. The leaflets of the aortic valve were slightly calcareous, and the ascending aorta was atheromatous. The uppermost portion of the right lung contained a smooth, glistening, white cicatrix of cartilaginous consistency. The pleuræ were otherwise normal. The lungs were edematous, and the left lower lobe pneumonic. The peritoneum was smooth and glistening, except along the ascending colon, where it was slightly dull, but free from adhesion or thickening. The lower surface of the liver was adherent to the stomach, though easily separable. The anterior portion of the upper surface was free, while the posterior portion was adherent to the diaphragm, though readily separable, except at a few points. The entire upper and the anterior half of the lower surface of the liver were covered by a smooth, dense fibrous coating. The anterior border of the liver was rounded, and the capsule was here 2 mm. thick, and as white as porcelain. Posteriorly it grew thinner, becoming finally translucent, like milkglass. Only the posterior aspect of the liver was free from the exudate, and this was smooth. The organ weighed 1850 grams, and measured 25 by 17 by 7 cm. Section and microscopic examination disclosed the appearances of typical marked cirrhosis. The spleen, especially on its convexity, was covered by a white, glistening capsule, like that in part surrounding the liver. The organ was adherent to the stomach and the diaphragm, though separable from each without much difficulty. It was large, soft and friable, weighing 580 grams, and measuring 16 by 12 by 4 cm. The mucous membrane of the stomach was free from ulceration, erosion, or varicosity. At the junction of the sigmoid flexure with the colon the serosa on the free surface opposite the mesosigmoid presented a glistening, whitish cicatricial thickening, quite circumscribed, and without adhesion, and similar to that of the liver, spleen, and right lung.

The peculiar form of mold or cast described may be the only or the most important feature of the morbid condition under consideration. It is usually present in several serous cavities simultaneously, and it may thus be designated a polyserositis. Deformity of the liver and ascites are secondary to fibrous inflammatory changes in the capsule of that organ. In the cases heretofore reported, the pleura has been almost invariably involved, and especially on the right side, and there has been presented the triad of symptoms, viz., involvement of the capsule of the liver, of the pericardium, and of the right pleura. Sometimes the spleen and the left pleura are involved. This association of lesions suggests an extension of the morbid process by contiguity. In the case reported, however, the lesions were multiple, and disseminated, and the possibility of extension by way of the lymphatics naturally suggests itself. The liver is at first enlarged, but subsequently it becomes diminished in size, and deformed. Its structure remains normal, or undergoes slight atrophy. The organ may acquire a nutmeg appearance, and the perihepatitis may eventually invade the parenchyma. The etiology of the disorder under consideration is exceedingly obscure. It sometimes follows infectious disease, and sometimes it appears as a local peritonitis. It may further follow abdominal diseases, such as cholecystitis, cholelithiasis or perityphlitis.

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[1] Berliner Klin. Woch., Sept. 18, 1999, p. 825.

ARTIFICIAL PRODUCTION OF NORMAL LARVAE FROM THE UNFERTILIZED EGGS OF THE SEA URCHIN.

Modern investigations into the mechanism of life phenomena have yielded results of great value. One of the most prominent and original of the investigators in this field is Jacques Loeb, in the Hull Physiological Laboratory of the University of Chicago. Loeb's recent studies into the conditions which influence embryonal development and growth, and into the nature and process of fertilization, are undoubtedly of fundamental importance. He shows[1] that alkalies and acids exercise a pronounced influence on the development of certain salt water larvæ (*Arbacia*), alkalies hastening their growth. The quantity of alkali necessary is remarkably minute. The addition of 1.5 to 2 c.c. of a decinormal NaOH solution to 100 c.c. of sea water suffices. Acids, on the other hand, retard development and growth. Loeb regards the cause of this action of dilute alkalies and acids on development and growth as due to the fact that weak alkalies favor the processes of oxidation in the living substance while acids diminish oxidation. Alkalies favor, acids retard the synthetic processes. Now, local differences in the alkalinity, or acidity, of the germ are perfectly possible. Variations in these conditions must necessarily occur in connection with metabolism. Differences in the quantity of alkali and acid in the various places of the growing embryo may well be a reason for the unequal growth necessary for differentiation in the embryo. At the same time there may be other chemical differences in the various areas of embryonal growth.

In another paper[2] Loeb describes the artificial pr duction of normal larvæ (*Plutei*) from the unfertiliz eggs of the sea urchin. It has for some time been know that the unfertilized eggs of echinoderms, worms, a arthropods begin to divide when left for a considerab time in sea water, but in no case did this process pr ceed to the formation of embryos. By placing the eg of the sea urchin in a mixture of about 50 per cer $^{10}/_{8}n$ $MgCl_2$ with about 50 per cent. of sea water, Lo brought about the same result as the entrance of spermatozoon. The unfertilized eggs were left in su a solution for about two hours and, when returned normal sea water, they began to segment and eventual formed larvæ which were normal in every respect. The experiments were, of course, fully controlled. T only difference from the normal in the experimen was that fewer eggs developed and that the developme was slower than in fertilized eggs. Hence the unfer lized egg of the sea urchin contains all the elemen necessary for its development, the only reason wh prevents parthenogenesis being the constitution of n mal sea water. All that the spermatozoon needs carry into the egg for fertilization are certain ions supplement the lack in the sea water of those wh are essential for segmentation and cell division or counteract those ions of the water which are unfavora for these processes. It is quite evident that the nuclei of the spermatozoon are not indispensable for fertili tion. Loeb thinks it not impossible that a transito change in the ions in the blood may induce parthenoge sis in mammalians because it is quite possible that h also it is the composition of the medium, the blo which prevents parthenogenetic development. The servations here referred to indicate that inorganic che istry deserves more attention from the physiologists th it has been receiving. There are certain facts in pat ology which speak in favor of a kind of human parth ogenesis. We refer to the origin of the mixed tumo or teratomas. The recent histologic studies of Wil and others have brought forward strong evidence in vor of the ovulogenous and parthenogenetic develo ment of the teratomas of the ovary. With the profou influences in mind which chemical substances exerc on the activities of cells, it lies near at hand to look local or general variations in the chemical compositi of the circulating medium for the explanation of ma other tumors and forms of pathologic cell prolife tions.

ACTION OF HEPATIC, RENAL AND OTHER CELLS PHENOL AND INDOL, UNDER NORMAL AND PATHOLOGIC CONDITIONS.

Experimental observations on the behavior of anin cells toward such substances as indol and phenol ha been made by Herter and Wakeman[1]. Their resear was prompted by the interest which is beginning to elt in the study of the defenses of the organism, to use his familiar phrase, against damage through chemical gencies. Among the problems which arise in connecion with this matter are: the determination of the seat f defensive action, whether in the blood or in the cells; he rôle of different kinds of cells on particular chemical gents; and the nature of the chemical changes which nay occur. Naturally more interest is connected with he fate of indol and phenol in the organism than with hat of wholly foreign substances. Indol and phenol re also recognizable by delicate color reactions, a fact f much practical value in an investigation of this sort. By mixing solutions of indol and phenol with a definite uantity of finely chopped up organ pulp and of blood, nd then applying suitable tests at various intervals, he activity of the pulps and of the blood in causing the isappearance of these substances could be quite readily scertained. It was found that in all instances the lood, brain, muscle, kidney and liver all exerted some nfluence in transforming phenol so that it no longer esponded to Millon's reagent, the liver being the most owerful, the kidney next and muscle third. Pracically the same results were obtained in the case of ndol, the blood having less activity than on phenol. This method of testing the action of cells and fluids on ndol and phenol is called the contact method. The econd method consisted in making intravenous infuions of solutions of phenol and indol. When nervous ymptoms appeared the animals were quickly killed and efinite weights of organs and of blood distilled and ubjected to color tests. The results of the experiments nade according to this method show more confusion in he degrees of activity of different organs, the muscle ppearing more active than the liver. Satisfactory inerpretations of all the results are as yet hard to furnish. Neither can the question as to the nature of the ransformation which occurs and causes more or less ndol and phenol to disappear when brought in conact with cells, be answered at present. The authors re inclined to regard the changes in indol as due to a rocess of oxidation; in the case of phenol they regard t as more likely that a loose combination is formed of his substance with the protoplasm of the cells, especially of the liver, which was found to retain its power toward phenol after exposure to the influence of numerous injurious agencies outside of the body. Herter and Wakeman also studied the action of hepatic cells on phenol under pathologic conditions. The effects of prolonged anesthesia, of poisoning by alcohol, ammonium chromate, morphin, etc., and of staphylococcus infection were investigated. They conclude that no pathologic conditions which can be induced in the liver during life are capable of greatly impairing or destroying the activity of its cells in the conversion of phenol. Rather unsatisfactory tests with fatty and cirrhotic human livers did not show any marked deviations from the normal in regard to the action on phenol.

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[1] Archiv f. Entwickelungs mechanik der Organismen, 1898, vi

[2] Am. Jour. of Phys., 1899, iii, 135

[1] Jour. of Exp. Med., 1899, iv, 307; Journal, September 30, * 3, p.

The phenomena above referred to are certainly very interesting. Some degree of light is thrown on the way in which cells of the body may screen the organism from certain poisons.

THE INDEX MEDICUS NOVUS.

Besides the *Jahrbucher, Jahresberichts* and *Centralblatts* published in Germany, we have now a periodical devoted to medical bibliography, the *Index Medicus Novus* of Dr. Doheney, Vienna. This is, so far as we are aware, the only one of its kind at the present time, though indexes of periodic literature in certain specialties may exist. This publication appears fortnightly and purports to give the medical literature of the world, though it is very incomplete as compared to the old *Index Medicus,* and only a very few leading American journals appear to be available to its compilers. The articles are indexed under heads as in the various *Jahrbucher,* no attempt at alphabetic arrangement under these being attempted. The frequency of issue, however, and the consequently more limited number of titles renders this less an objection than might otherwise be the case. As an aid to research in continental European medical literature it will be of value, and possibly may in time develop into a satisfactory substitute for the late *Index Medicus.*

RISKS OF SUMMER RESORTS.

Professor Lindsley of the Yale Medical School, in a recent report, calls attention to the risks run by boarders in summer hotels and seashore cottages from typhoid fever, and to some extent also from other disorders due to neglect of sanitary precautions. The subject is not a new one, but it is one to be kept in mind and a warning coming even after the season of summer outings may be of value in stimulating effort for improvement before next year. Rural sanitation is, as a rule, crude where some attempt at it is made, but very often it is left to Nature exclusively, while human efforts are rather directed to its opposite. The salvation of many rural summer resorts is their brief period of occupation, as Professor Lindsley says, and they afford a very suitable field for the exercise of the supervisory functions of a state board of health. In a commonwealth like Connecticut, whose rural hamlets are so extensively utilized as summer resorts, this is particularly the case.

CATTLE AND CANCER.

Domestic cattle, which have hitherto been so great a food resource in their living and dead products, are now largely under suspicion in both these regards. Tuberculous beef and tuberculous milk we are already warned against, but there may be other transmittable bovine diseases yet to be heard from. One of these is possibly cancer, and Mr. Jasper More, an English member of Parliament, has recently written to the secretary of a British society devoted to the discussion of the subject of cancer. He found, he says, on inquiry among English farmers, that cancer is much more common in cattle than tuberculosis, and that cancerous meat is very commonly sold for food. He proposed to have the matter brought before Parliament had there been any discussion on tuberculosis, but the opportunity was not afforded him, and he suggests that it might be well to inquire into the question whether cancer may be spread in this way. The transmission of cancer in this way has apparently thus far received little attention, but if the alleged increase of cancer is a real one, it might be well to investigate it. It certainly seems as possible as the vegetable origin of cancer, which has been seriously considered, and would appear to be deserving of study by competent pathologists. The favorite locality for cancer, according to Mr. More's informants, is near the lips or the throat of the animal, and is easily kept from observation while it is sent to the slaughterer. So far as we have observed, this additional pathologic possibility involving our meat supply has received very little medical attention.

"PURE FOODS."

The Washington correspondent of an eastern paper, the *Brooklyn Eagle,* states that the chemists of the Department of Agriculture have of late been giving attention to the numerous breakfast foods that are being so actively pushed before the purchasing public. Samples were obtained of the advertised brands and repeated analyses made, with the result, the correspondent states, "that the official report, which will be issued before long, will show that the makers of these preparations have been so enterprising in advertising their wares as to forget to stick closely to facts." While the analyses proved that there was practically no adulteration, they found that there was no discoverable relation between quality and prices. Some of these preparations are sold at four or five times the cost of the others of the same constitution and equal merit. Oatmeal in bulk, for example, was found in composition and, as far as could be judged, in quality and flavor as good as that sold in packages at a much higher price. It is well in these days of food and diet fads to keep in mind the commercial reasons for the existence of the numerous preparations advertised as "health foods," etc. The forthcoming report of Dr. Wiley will be of interest to medical men who are so often consulted in regard to these articles.

THE ASSOCIATION AND SENN MEDALS.

We desire thus prominently to call the attention of members of the American Medical Association to the fact that two gold medals, each of the value of $100, are offered each year for the best essay on some medical or surgical subject. While these prizes have been open for two years, thus far neither has been awarded. One of these is offered by the Association, and is known as the "Association Medal;" the other is offered by Dr. Nicholas Senn, and known as the "Nicholas Senn Medal." The Association offers its gold medal with the following conditions: The competing essays shall be typewritten or printed, and shall bear no mark revealing their authorship, but instead of the name of the author there shall appear on each essay a motto, and accompanying each there shall be a sealed envelope containing the name and address and the motto of the author, and bearing on its outer surface only the motto of identification. The envelope is not to be opened by the Committee until a decision has been reached as to the most deserving essay and the others have been returned to their respective owners. Th Committee shall have power to reject and return al essays, in case none have been found worthy of th medal. Competing essays must be in the hands of th Committee, which is elected each year by the Busines Committee, not later than March 1 of each year. Th Senn Medal is offered on the same general conditions the Committee awarding this medal being elected b the Section on Surgery and Anatomy.

NATIONAL EXPANSION.

It is said that the average American is increasin in girth, and that the typical Uncle Sam with his lan body in its swallow-tail and striped trousers is mor than ever before a gross caricature of the national type A New York paper claims that figures collected fron clothing dealers show that while the average America of 1889 was easily fitted with a waistband of forty-si inches, which it was then thought would never be exceeded, in 1899 he requires one of forty-seven and half inches. It goes on to make the calculation that, a this rate of increase, he will reach in 1909, a circumference of forty-nine or fifty inches, and that in A. D 2899 the American girth will be sixteen feet. Th above facts, not the deductions quoted, are credited t one of the scientific government bureaus, and it is state that the increased consumption of farinaceous and fat producing foods is alleged as a possible cause. Th dairy lunch counters that have sprung up so numerously within the past few years are credited in par with this result. The editor adds his own theories, tha the labor-saving inventions, the elevators, telephone and other contrivances supposed to make people indolent and fat, have their part in producing this resul Whether these are anything more than guesses is doubtful; the real reason of the fact, so far as it is such, i probably yet to be given. There are probably many factors co-operating, not the least of which is the improve physical surroundings of the present generation. Th ideal Yankee still exists, but it is a long time since h fairly represented the average American citizen. I will probably be a still longer time, however, before w take the trouble to change our comic national personification.

DOSES IN THE PHARMACOPEIA.

The *Bulletin of Pharmacy,* for October, contains paper read before the American Pharmaceutical Association, at its recent meeting, by H. B. Mason, on th question of incorporating the maximum and minimu doses of drugs in the coming issue of the Pharmacopei At present the work is considered as exclusively on for the pharmacist, while few physicians are acquainte with it and still fewer consult it. The great majorit of practitioners, however, who have been asked, hav expressed the opinion that the doses should be adde to the Pharmacopeia and this, if done, would unquestionably largely increase its circulation. It would giv us an authoritative posology, and after all would onl follow the practice of every other pharmacopeia excep our own. Three objections have been urged to th step; that were this done, there would be a legal stan ard established, the exceeding of which might render the prescriber amenable to the law. Mason answers by saying that such an occurrence is unlikely, and the authority of leading therapeutists would be always available in defense except where the variance went beyond science and reason. It might, however, be so stated in the work as to give the prescriber all needed liberty in the rare cases where a greater range of doses is needed. The second objection offered, that there is no definite standard in doses, he points out is a trivial one, as the general consensus of opinion can be readily obtained in regard to any drug, and it is only those that represent the general practice that are required. The remaining one, that doses and therapeutics are foreign to the purpose of the Pharmacopeia, is a matter of minor importance. The question is not whether we shall confine ourselves to the original purpose of the work, but can we make it more useful by adapting it to modern demands. Shall we let the Pharmacopeia go unused because of reverence for the ideas of its founders at the time of its beginning? There is no good reason why we should not take the step that has been taken by the revisers in every other country than our own.

PROGNOSTIC AND DIAGNOSTIC VALUE OF CHEYNE-STOKES RESPIRATION.

The time has not long passed when it was considered that the development of that peculiar type of respiration known as Cheyne-Stokes was almost surely indicative of the early death of the patient, and while cases are on record in which this phenomenon has lasted for many days before death has taken place, nevertheless we are all accustomed to consider that the development of this symptom is one of evil omen. If we mistake not, one of the great English practitioners of this century made the assertion that he had never seen recovery take place in a patient with well-marked Cheyne-Stokes respiration. In this connection, therefore, a paper which has recently appeared in the *British Medical Journal*, by Pembrey, who is the lecturer on physiology in the Charing Cross Hospital, London, is of considerable interest. This writer believes that the Cheyne-Stokes respiration can be observed under certain physiologic conditions in healthy animals and men, and he points out that during hibernation in some of the lower animals an irregular form of intermittent respiration somewhat resembling the Cheyne-Stokes type is commonly met, and that Mosso, the Italian investigator, has found a typical Cheyne-Stokes breathing in the hibernating dormouse. Personally we believe that the prognostic value of Cheyne-Stokes breathing depends, to some extent at least, on its cause. The symptom has certainly been seen in a number of patients when under the influence of chloroform, which patients have recovered, and it is also sometimes observed in those who have been accustomed to take large doses of morphin and who have been suddenly deprived of their accustomed dose. In these two classes this symptom does not seem to possess the gravity that it possesses when it arises from cases of hemiplegia arising from the various cerebral lesions which produce this form of loss of power, nor the gravity which it possesses when seen in such diseases as diabetes and certain types of uremia. It would be of interest if physicians would record cases in which this symptom has been well developed and in which recovery has nevertheless taken place.

INFANTILE CONVULSIONS, NIGHT TERRORS AND EPILEPSY.

For many years the relationship of the three nervous disorders, infantile eclampsia, night terrors and epilepsy, has been considered more or less direct. Within the past two years, much evidence to the contrary has been given. The probable truth of the matter will at last be found in the middle ground that they are not closely related, but they may exist in different combinations; their relationship will then rest on the fact that the first two are indices of a neurotic predisposition which, under unfavorable circumstances, may persist in later life, as the neurosis of epilepsy. The frequency with which infantile convulsions are met is out of all proportion to the epileptic population, although the frequency of the former is commonly exaggerated. Generally the occurrence of infantile eclampsia in several members of the same family is a fair index of its clinical value in any given case as a neurotic factor; the same may be said of night terrors. Recent statistics seem to prove that over one-half of all epilepsies beginning in early life, had their initiative in infantile eclampsia. Convulsions of early life may persist and keep their same general character in the patient's later epileptic career, but the converse of this statement is not always true; hence, the deduction is not to frighten the parents of an eclamptic infant with the bugaboo of epilepsy in later life. Nearly one-half of all eclamptic children never have further neurotic manifestations in later life; the possibility of all eclamptic infants becoming epileptic is analogous to the absurdity of expecting all alcoholic syphilitics will become paretics. Bearing in mind the hallucinatory distinction between ordinary nightmare and the true night terrors, which the latter possess but the former does not, it can be easily seen that night terrors have a decided neurotic basis, notwithstanding some recent writers regard prolonged dyspnea as its main cause. Nearly one-third of all carefully recorded epileptics present, at some time in their lives, a history of night terrors, but the contrary is not true, which shows that, in itself, night terrors are not a salient factor in determining epilepsy. Both night terrors and infantile eclampsia manifest in their slight forms, can hardly be regarded in any stronger light in the determination of epilepsy than that they are indices of a neurotic predisposition.

THE MONEY VALUE OF PAIN.

The judge's charge, in a recent trial for damages in a New Jersey court—see JOURNAL'S news items, last week—and the subsequent finding of the jury, raise, or at least suggest, an interesting psychologic question. A man was struck, it is alleged, by a fallen electric wire during a thunder storm, and received apparently a severe electric shock, with the result of producing a peculiar condition of what was claimed to be a sort of hypnotic suggestibility in which he is uncertain as to his own sensations and only feels what he is told he feels. According to the contention of the defense, as stated in the newspaper accounts, he is never certain when he is in pain, but has to depend on others to know whether he has headaches, his shoe pinches, or he has cramps; in other words, he only feels pain when he imagines or is led to imagine it. The judge charged the jury that damages should only be awarded for actual suffering, and it brought in a verdict for $1,000. Assuming the correctness of the facts as reported, and that this man's sensations are all dependent on his mental beliefs, all he would have to do to avoid pain would be not to believe in its existence. Pain is a very serious reality to most of us, and we would be glad to find it a fiction of the imagination; the craze of "Christian Science" is a proof of this desire. It seems at first sight contradictory to read of damages allowed for actual suffering to a victim of imagined pain, when an equal exercise of the imagination might, it is presumed, abolish all pain. When, however, one considers that suggestibility works both ways and that imaginary pain may possibly be as real to the sufferer as the genuine article, $1,000 damages for such a condition, supposing it real and permanent, seems small. Something may also have been made in the pleas of the warning value of pain which is often a blessing in disguise. The alleged condition is a curious one, and suggestive in many ways other than the medicolegal one specially involved.

SUPERSTITIOUS EXPECTORATION.

The spitting nuisance is largely credited in this country to tobacco chewers and to reckless victims of bronchial or pulmonary disease, and is considered simply an objectionable and unsanitary habit. It may be indulged in for other reasons, as is done by cats, for example, but this is not respectable and is dangerous. In Europe, including Great Britain, however, there seems to be a host of superstitions connected with the act, according to the *Medical Press and Circular*. Thus it says: "In days of antiquity spitting was resorted to in order to ward off dangers, and up to the present time luck is wooed and misfortune avoided by the process of spitting. Newborn children are treated to a lavish expectoration by midwives in certain parts of the country, fishermen spit on their hooks after baiting them, and it is considered to be absolutely essential before washing in the same basin in which a friend has washed, to spit into it, for otherwise a quarrel would be sure to follow. But it is on the continent that the superstition of spitting seems to reach its worst degree. In Oldenburg, for example, the loathsome custom prevails of always spitting three times into the kneading-trough. Again, babies in Hungary are especially singled out as objects of the superstition, the custom there is to spit into the babies' faces to bring them good luck. . . . In Silesia and Bohemia persons generally spit three times when they meet an old woman. . . . Again, in Sweden a great deal of superstitious spitting seems to take place. Persons, for example, spit into their beds before retiring, playing-cards are spit upon when their luck is bad, and every new suit of clothes is made the object of a gross expectoration, but for what reason it is quite impossible to imagine." A knowledge of folk lore and superstitions has not been generally considered an indispensable part of our culture, but it may be well to know some of these things, if it were only to avoid the Oldenburg bread. So far as we are aware, these customs have not been brought to this country to any extent, and it is to be hoped they will not be. We have troubles enough of our own without having to endure the introduction of ritual expectoration on the European plan.

Medical News.

Fire destroyed the Stone City Home and Hospital Findlay, Ohio, October 23; loss $50,000.

Dr. John H. Packard of Philadelphia, who has been abroad for several months, has returned home.

By the will of John D. Bleight, who recently died in Philadelphia, $500 has been given the Pennsylvania Hospital.

Dr. A. T. Newcomb, specialist on diseases of th nose, throat and chest, has removed from Baltimore Md., to Pasadena, Cal.

Lydia Woerner of Philadelphia has been appointed medical missionary to Rajahmundry, British India, and will sail for that place at an early date.

Dr. James B. Herrick, associate professor of medi cine in Rush Medical College, Chicago, has gone t Europe, to return in January.

Dr. G. Brown Miller has been appointed residen gynecologist at the Johns Hopkins Hospital, Baltimore Md., vice Dr. J. Ernst Stokes, resigned.

An inquiry into the condition and governance o the asylums of Prince Edward Island has been ordered by the local government and is now proceeding.

A bacteriologic institute has been established i Vladivostok, the principal Russian port on the Pacific and another is to be opened at Merv in Central Asia.

Miss Caroline Shill of Philadelphia has left th sum of $200 to the Atlantic City (N. J.) Hospital, t endow a free bed in the new annex of that institution.

Dr. D. A. Payne, Chicago, has resigned the chair o associate professor of ophthalmology, in the Chicag Clinical School, and gone south on account of ill-health

Dr. J. G. Adami, Montreal, will deliver the annua lecture, November 29, before a joint meeting of the Chicago Society of Internal Medicine and the Chicago Medical Society.

Dr. Geikie, Dean of Trinity Medical College, Toronto, is soliciting funds for the purpose of erecting a monument to Dr. Rolph, the founder of medical educatio in the Province of Ontario.

Owing to recent changes in the medical law in Michigan, there has been a considerable rush on the part o medical men in the Province of Ontario to becom licensed to practice in that State.

Druggists in Hamburg have been warned that th full penalty of the law will be enforced if "secret remedies" are sold to the public without a physician's prescription, against the regulations.

A recent bequest of 22,000 roubles, by Dr. Brend to the Society for the Care of Sick Children in Odess Russia, and a similar amount by Brodski, the suga merchant, will enlarge the gynecologic clinic at Kieff.

Dr. Henry P. Newman, Chicago, treasurer of th Association, has returned from his European tri

The Doctor made Paris his objective point for certain medical investigations.

Dr. Frederick Tice, Chicago, has tendered his resignation as head physician of the Dunning Asylum. He contemplates two years' study in Europe.

The jury in the case of Mr. and Mrs. Charles W. Schaffer vs. Dr. John Ege of Reading, Pa., who entered suit for damages for permanent injuries, and amounting to $35,000, October 14 brought in a verdict for $13,092.

Dr. Charles A. Wilson, Montreal, has been appointed surgeon-major to the Canadian contingent to the Transvaal. With him are associated Surgeon-Lieutenants Osborne and Fiset and probably Surgeon-Major Nattress of Toronto.

A child, 4 years old, in Hammond, Ind., died of diphtheria recently and the coroner charges the parents with willfully neglecting to bring in medical aid. Their guidance is said to have been the doctrines of "Dr. John Alexander Dowie" of Chicago.

Dr. L. Duncan Bulkley, New York City, will give a second series of clinical lectures on diseases of the skin in the N. Y. Skin and Cancer Hospital, Wednesday afternoons, commencing November 1. The course will be free to the medical profession.

Three new leprosoria are to be opened in southern Russian provinces, accommodating 80, 150 and 120 lepers respectively. All lepers who are able to work in the asylums will be compelled to do so, although the products of their labor will not be for sale outside.

A bequest of $3000 has been made to the Phœnixville (Pa.) Hospital by Mrs. Mary Keeler of Spring City, Pa. A further bequest has been made by which the giver agreed to furnish and equip the largest ward in the hospital as soon as the building is completed.

Coroner's Physician, Dr. A. T. Weston, New York City, has brought suit against the city for $1,000 for services rendered in performing an autopsy last February outside of the Borough of Manhattan and in the line of extra service.

Ten cases of the plague have occurred outside the sanitary cordon around Oporto, and twelve new cases in the city since our last report—seventeen in all during September—with four deaths. Gierswohl has found the bacilli on the feet of flies in the hospitals and on the corpses of victims of the disease.

A report from Colonel Forwood to General Shafter announces the establishment of a Government Hospital at Honolulu for the care of soldiers going to or returning from the Philippines. The building, which was formerly located in the suburbs of the city, has been removed to Buena Vista Park. It is equipped with 100 beds and is in charge of Major M. M. Wood.

Dr. Daniel R. Brower, professor of mental diseases, etc., in Rush Medical College, Chicago, gave stereopticon views and an address on his recent Hawaiian trip, before the Ashland Fellowship Club, Chicago, October 20; also an address to the medical students of Chicago, in the Church of the Epiphany, Sunday evening, October 22, on "A Great Physician of the First Century"—St. Luke.

Councils committee of Philadelphia has made an allowance of $60,000 for enlarging buildings in the Insane Department of the Philadelphia Hospital. For the Bureau of Charities an allowance of $1700 was granted for the purchase of a complete X-ray apparatus. The salary of the chief resident physician was raised from $2500 to $2750. The salaries of the fifty district physicians were increased from $240 to $300 yearly.

The war in Africa has called out the patriotism of members of the medical profession in England and many are offering their services as they did in our own country in a like emergency last year. Among these is Sir Wm. McCormac of London, whose offer has been accepted and he goes to the front immediately with the younger members. Already many cases of heroism on the part of surgeons have been reported.

Dr. Charles Sheard, M. H. O., Toronto, has just completed a medical examination of the firemen of that city, for the purpose of ascertaining their physical fitness for their respective duties. Examinations were made on 154 out of a total of 175 members, and of these only 89 are first-class men; 35 in the second class embrace those who are unfit for prolonged effort, while the others he considers unfit for firemen's duties. He advocates a properly regulated system of physical training for these men.

B. N. Baker, president of the Atlantic Transport Line, Baltimore, Md., has offered the British Government a vessel of that line for a hospital ship during the War with the Transvaal. The offer has been accepted and the *Maine* will probably be the vessel placed at the disposal of the British. It will be remembered that during the late war with Spain, Mr. Baker placed the *Missouri*—famous for the rescue in midocean of the *Danemark's* passengers and crew—at the disposal of the United States for a similar use, paying all expenses. The captain and crew of the *Maine* are included in Mr. B.'s offer.

Dr. Watson L. Savage, in a report on the public school system before the Physical Education Society, New York City, has stated that while the school buildings recently erected in that city are highly satisfactory to the advocates of physical education in some respects, in many they are a great disappointment. They are all well equipped with gymnasiums and gymnastic apparatus, but these are not properly utilized. In the Doctor's opinion the system regulating physical education in the public schools is quite wrong. For instance, two supervisors are supposed to give instructions to about two thousand teachers—a manifest impossibility. Instead of this he suggests that there ought to be a single director of physical education with thirty to fifty capable assistants, all on adequate salaries, and only under such circumstances can the desired result be obtained.

The sixteenth annual meeting of the N. Y. State Medical Association was held at the Academy of Music, New York City, this week. The meeting was in every way most successful, the papers and discussions being of exceptional merit, and the attendance was the largest in the history of the Association, the increase in membership being over sixty. The evening reception in honor of Prof. W. W. Keen, president of the American Medical Association; Drs. Reginald Fitz of Boston, and Wm. Osler of Baltimore, was a delightful affair and largely attended. The newly elected officers are: president, E. D. Ferguson, Troy; vice-presidents, Chas. H. Glidden of Little Falls, J. M. Farrington of Binghampton, W. H. Thornton of Buffalo, and J. C. Bierwirth of Brooklyn; treasurer, E. H. Squibb, Brooklyn; secretary, M. C. O'Brien, New York City.

Medical Service in Transvaal War.—According to the *Lancet* of October 14, the medical service arrangements for the Transvaal expedition are based on the general lines of the British Army Regulations, supplemented by aid from various Red Cross societies of Great Britain, the stationary, general, and base hospitals, medical store depots, hospital ships, nursing staff, field hospitals, etc., all under the command of the officers of the Royal Army Medical Corps. The places of the medical officers proceeding to South Africa for service are being filled at home by the employment of members of the civil profession at special rates. Owing to the prevalence of enteric fever in Natal, every man ordered for service has been given the option of being inoculated with antityphoid serum, and 70 per cent. of the troops have accepted the offer.

The Plague in India.—The India correspondent of the *Lancet* (October 14), writing under date of September 21, says that the government of India has under consideration a comprehensive scheme for establishing research laboratories in various points of India. The present laboratory at Muktesar is to have its staff increased and to become the central research laboratory for India, while health officers are to be given charge of the laboratories at Calcutta, Madras, Bombay, Agra, and Lahore. It will cost the government of India about £3,300 per year, and local governments about £6,650. The governor-general has made new regulations regarding taking or sending cultures or other articles containing live germs of the plague. No person who is not a commissioned medical officer, military assistant-surgeon, or medical practitioner in possession of a qualification not lower than that of L. M. S. of the University of Calcutta, Madras, or Bombay, can hereafter, with special permission, take cultures or other articles which he believes to contain living plague germs from one place to another in India. The writer gives the number of deaths from plague for the week preceding his communication as 4400, the deaths in Poona being at the rate of 250 per 1000 per annum.

With the Medical Schools.—The Board of Regents of the University of the State of California has approved the plan of reorganization submitted by the medical faculty and indorsed by President Wheeler. The changes already made in the medical department are very extensive and promise to be still more radical. The departments of anatomy, physiology and pathology are to be at once, or are actually being, equipped with the fullest and most complete apparatus of all kinds. These departments are also to be in charge of men of ability, who will receive sufficient salaries and confine themselves entirely to their work in the medical department. Prof. Alonzo E. Taylor received the appointment of professor of pathology. Through the generosity of a member of the Board of Regents, this department is being equipped with microscopes, microtomes, hemotometers, polariscopes, electrical resistance apparatus, etc., selected by the head of the department. Private laboratories for original research will also be equipped with the most accurate apparatus for all lines of pathologic research. For this purpose Dr. Taylor goes, almost immediately, abroad. The department of anatomy has been entirely reorganized and placed on a more satisfactory basis. As yet no head has been chosen for this department, but a selection will soon be made. It, as well as the department of physiology, is to be fully equipped as soon as the necessary apparatus, most of which has been ordered, can be obtained. A laboratory for original research on animals has been equipped and several lines of original work are now in progress. It is the intention of the Regents of the University of California to make the medical school one of the important departments of the University, and to place it on a basis equal to that of any medical school in the country. Every effort will be made to fully provide for all the original work that it may be desired to undertake, so that men who desire and are competent to make such investigations may do so without going east or to Europe. Dr. Thomas W. Huntington, for many years chief surgeon of the Southern Pacific Railway Co., at Sacramento, has been appointed associate professor of clinical and operative surgery; Dr. Harry M. Sherman, president of the American Orthopedic Association, professor of the principles and practice of surgery; Dr. J. M. Williamson, formerly professor of anatomy, professor of genito-urinary surgery; Dr. H. C. Moffitt, lecturer on principles and practice of medicine; Dr. J. Henry Barbat, instructor in surgery and surgical anatomy; Drs. Stephen Cleary and C. D. McGettigen, demonstrators of anatomy; Dr. Leo Newmark, clinical lecturer on nervous diseases; Dr. Thos. W. Leland, instructor in physiology; Dr. Philip Mills Jones, instructor in electrophysiology, and librarian; Dr. Jas. F. McCone, instructor in obstetrics. At the commencement of the present college year, Dr. R. A. McLean, for several years past dean and professor of clinical surgery, resigned the former office. Dr. McLean has been in poor health for some time and is not able to attend to his duties; Dr. Thos. W. Huntington was therefore appointed associate professor and will attend to the work in clinical and operative surgery. Dr. A. A. D'Ancona was appointed dean of the faculty. All of the above appointments and changes were suggested by the Faculty at the first of the year, but no official action was taken by the Board of Regents until President Wheeler could pass on the matters.... The registration figures of Columbia University, New York City, show that in the medical department—the College of Physicians and Surgeons—there have thus far been enrolled 735 students, against 686 at the corresponding period in 1898.... The registration to date for the autumn quarter, at Rush Medical College, Chicago, is 826, a much greater registration than at the corresponding date in any previous year.

Correspondence.

Paris.

(From Our Special Correspondent.)

Paris, France, Sept. 25, 1899.

To the Editor: If I were obliged to spend the rest of my days away from America—an impossible supposition—no place would seem to me so attractive and homelike as Paris. London is mighty and magnificent; Berlin, heavy and handsome; but for American lungs give me the atmosphere of a republic.

It is impossible not to feel at home in this thrifty, noisy, enthusiastic home of Independence, especially for a Chicagoan. The city is not unlike our city in many ways, and the people are not unlike our people, speaking quite personally and within the circle of my own profession.

I can not say too much in favor of the Frenchman as a physician. This visit to Paris, more than any previous one, has brought me into intimate contact with many of the fraternity. Although this is a time when most of the busiest men are taking their annual rest, I have been given many opportunities to see good work and have been shown every possible courtesy, personal and professional. I have made almost daily sits to all the hospitals of note, and have spent the mornings one or other of the greater clinics. The Paris doctor has ry comfortable hours for work, at least at this season. He is sy in the clinics from 9 or 10 a.m. till noon, and free for the st of the day. Then he is very exclusive in his mode of life. should say, rather, seclusion, since I refer only to his manner advertising and announcing himself to his patients. It is ly the "little doctors," they tell me, who allow themselves the blicity of a sign at the door. There must be very few who e willing to be placed in this class, for I have seen a physin's sign—small and inconspicuous at that—in very rare innces. This fashion has its disadvantages. You are often liged to hunt your doctor in a large apartment building ere the doors are all alike—no name-plate on any—and you ay ring several bells before you find the right one. However, stom is a severe master, and I suppose it is difficult to cut e first string of ethical red tape.

The professor sits while lecturing, which makes the hour ite informal and conversational. The laboratories are well uipped and have abundance of material. The clinical marial is also plentiful. I saw upward of 350 cases run through a morning in the skin clinic at the Hospital St. Louis. For other thing, the medical man is much respected in the comunity. In the public institutions, clinics and wards are med for some well-known physician, and the man who has ven his life work to hospital and dispensary does not necesrily efface himself thereby. The tricolored flag of France ats over the Bandeloque and Tarnier Clinics, the Pasteur stitute and Péan Hospital, and many similar monuments to e labors of good men and true.

The clinics which I have visited most often have been pley's at Hotel Dieu; Richelieu's at Hospital St. Louis; barron's, Hospital Necker; Tuffier's at the Lariboissiere, ure's at Charité; Professors Segond, Pazzi and Bouilly at lpêtrière, Broca and Cochin hospitals. The three latter men e taking vacations at present, and so I have not had the easure of seeing them at work, but I have met them personly and enjoyed them exceedingly. Dr. Segond, who has a rm feeling for Americans as a result of his trip to our contint some four years ago, has been exceptionally kind, and I ve received many courtesies from him and his friend, Dr. ul Muller. The latter is a good friend to Americans in ris and has looked after the health of some of our best izens in their sojourn abroad.

In general I have remarked that the French physician is t only courteous to his colleagues, but kind and considerate his patients. I can not help thinking that this spirit of mpathy and humanity is the outgrowth of republican soil. least I have not found it so well developed in other Eupean countries.

Then the Frenchman is a deft and skilful operator, cool and pable, notwithstanding the national reputation for nervous citability. This characteristic is shown also by the patient. o endures supreme physical ordeals with little evidence of ock or depression. In the clinics at Hotel Dieu, the other y, Dr. Delbet, surgeon, I saw an operation for cancer of the lorus, in the course of which the operator removed nearly o-thirds of the stomach and a portion of the intestines, ite as a routine procedure and without exciting any partic-ar comment among the onlookers. In this proceeding he ed no fancy stitching or appliances, only two rows of contin-us catgut sutures. And a few days before I had seen the me operator at work on a ghastly case of cancer of the testine under the most trying circumstances. The tumor had en diagnosed as a large pyosalpinx, and hysterectomy had en done before the true condition of things appeared. The eration was continued, however, with the necessary extenve cutting and removal of large portions of intestine. I saw e patient on the next day, not only alive, but looking quite mfortable.

The Parisian love for the beautiful and artistic is manifested in the furnishings and adornment of hospital and dispensary quite as noticeably as in the palaces and boulevards. The wards are bright and inviting, and the waiting-rooms often enlivened with frescoes and floral decorations. Like all buildings in Paris, the hospitals have the large inner court, and this is almost universally well filled with handsome plants.

As to the position of the foreign physician in Paris, there is in force here such an extreme protective policy that overcrowding of the profession is effectually prevented. The university degree, which one is free to take here, does not entitle one to practice in France, and the examination necessary for a certificate is not open to foreigners. I am told, however, that exceptions are sometimes made in the case of those who can secure a proper amount of "influence." There is much reason in this exclusiveness, however, as Paris is so cosmopolitan that without it the ranks of the profession would soon be overrun. It is not to criticize them that I speak of it, but to call attention to the attitude of our own country in the premises. It need not be narrowness, but a just degree of self-respect that should prevent us from welcoming with such effusive warmth every foreigner who comes to us presenting a certificate from Heidelberg or Leipsic or Bonn or Paris, in medicine, literature, language or music. We should not receive so tamely the slight put on our great American universities, whose honorable degrees are not recognized or credited abroad. Just a little bit of healthy reciprocity, ever so good-natured, would wake up this self-satisfied Old World to the worth and merit of the New.

A letter from Paris without any reference to the three great exhibitions she is making for the world, at Rennes, at Rue Chabral and on the banks of the Seine, would be empty reading. So I must add that Dreyfus and Jules Guerin are greater heroes outside of France than here in this big, bustling metropolis. It is such a sad thing for the country, and the better people in the army and out of it, this travesty of military justice, that the best French sentiment tries to cover the wound from foreign eyes, and the absurd incompetence of the civil authorities in the case of the Anti-Semitic League, self-imprisoned in Monsieur Guerin's "Fort" is a matter of grave chagrin to the Parisian.

As for the exhibition of nineteenth century progress, to be held here the coming year, it will certainly serve to re-establish the fame of the city after these trying times are over. The buildings are well under way, the situation is lovely, and from all one can hear and see the exposition of 1900 will surpass in effect anything before attempted in this world of shows. After America's splendid exploit at Chicago, she will not be jealous of this success. Her example has made it necessary; her money is making it possible, and her people will come to see it all and go away saying, as they always do, "There is no city on earth quite like Paris."

H. P. Newman, M.D.

Emigration Leper Laws for America.

New York City, Oct. 14, 1899.

To the Editor:—Apropos of the departure for Europe of Dr. Doty, the health officer of the port of New York, to propose to the health authorities of Bremen and other places "a new method for the control of importation of infectious diseases to America," I ask that you print an article of mine which was published in *Janus* (Amsterdam, Holland), May and June, 1897, as follows: The following laws applying to emigrants should be, in my opinion, promulgated:

1. Emigrants from leprous countries of Europe, like Norway and Sweden, should be visited by the medical officer attached to the United States Consulate at the port of embarkation. If the emigrant is of a leprous family, he should be compelled to leave his clothes and effects behind him, and rig himself out anew, submit himself to personal disinfection, and be reported as sus-

picious to the Board of Health of the state indicated by his ticket. The health officer of that state should keep him and his family under supervision for seven years.

2. It should be a penal offense for a steamship company to carry an emigrant from a leprous country without the health permit of the American Consul.

3. Should a leper precent himself for emigration, to the United States Consulate, he should be turned back to the authorities of his own country.

4. A leper who has escaped supervision or detection at the port of embarkation, and at the port of entry in America, should be reported to his own country through his Consul residing in the port of entry in America, who shall send him back at the expense of his own country.

5. Norwegians and Swedes (and Russians) of leprous families, should choose for settlement, states like Minnesota, Wisconsin, North and South Dakota, and Western Kansas, whose climate is antagonistic to the life and multiplication of the bacilli. Under no circumstances should they settle near the Atlantic coast line, near the northern lakes, or in the cotton belt, whose climate is quite the opposite of the other.

6. Any suspicious emigrant should be for seven years, under what the French call *surveillance de la haute police*, therefore should not be permitted to go from one state to another without the latter being duly informed of the fact by the former.

Albert S. Ashmead, M.D.

Intubation and Antitoxin in Diphtheritic Laryngitis.

Chicago, Oct. 10, 1899.

To the Editor:—Intubation of the larynx in diphtheritic stenosis before antitoxin came into such general use, was much more common than now. Indeed, antitoxin seems to have very largely done away with the necessity for intubation.

It is my firm conviction that: 1, when antitoxin is used early, the larynx will not become involved nearly as often as without it; 2, when the disease commences primarily in the larynx, it is sometimes arrested, requiring no surgical interference; and 3, when intubation is necessary, recoveries are more frequent than before antitoxin days.

My experience in the surgical treatment of diphtheritic laryngitis is limited to 234 cases, the tube having been inserted in the last case twenty-four hours ago, and the patient is still wearing the tube, having a good prospect of recovery. All occurred in private practice. Tracheotomy was done in 30 of these, with a recovery of 24 per cent.; 150 were intubated with a recovery of 40 per cent., and 53 were treated with antitoxin and intubation and show a recovery of 60 per cent. These results speak more forcibly than words, and are about on a par with those obtained by other operators. Some have shown a greater, some a less percentage of recoveries, the difference, depending largely on early or late operating, the type of the disease, mild or severe, malignant or non-malignant. There can be no doubt that the surgical treatment of this disease has steadily advanced, from tracheotomy to intubation, from intubation to intubation with antitoxin. The exact increase in the percentage of recoveries may never be known; we care little or nothing for this. The broad fact remains the same, that a vastly greater number of children recover, with the aid of antitoxin and intubation, than with intubation alone.

Albert B. Strong, M D

533 W. Monroe St.

Primary Testicular Mumps.

So. Royalton, Vt., Oct. 17, 1899.

To the Editor:—I was much interested in Dr. Landon B. Edwards' article in the Journal, October 14, on the above subject. One similar case occurred in my practice several years ago, in a carpenter, a married man, of excellent habits. I was treating several cases of mumps in his family at the time. He was at work on a building across the street from my office and came in saying that his testicles were paining him, and examination I found they were both swollen and tender. T next day there was an increase of swelling, pain, tendernes and a rise in temperature. This continued for two or thr days more, when a very decided parotiditis occurred. T testicles did not become atrophied and I have since attend his wife in a confinement. For several years I have close watched literature and society reports and have not receiv any light from either source on the condition under consider tion.

Yours, very truly,

D. L. Burnett, M.D.

Early Conception Following Labor.

LaPorte, Ind., Oct. 10, 1899.

To the Editor:—Gould and Pyle, in their work "Anomal and Curiosities of Medicine," mention several cases of ea conception after a preceding pregnancy varying from fo hours to twenty-eight days. I desire to place on record anoth case: Mrs. B. was delivered on Dec. 5, 1898, of a girl. September 27, 1899, she was again delivered of a boy at f term. She must have become pregnant on or about Dec. 1898, just twenty-two days after the delivery of her fi child.

Yours truly,

E. L. Annis, M.D.

Washington, D. C.

(From Our Regular Correspondent.)

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended Octo 14 shows the total number of deaths to have been 139, 74 wh and 65 colored. At the close of the week there were 69 ca of diphtheria and 75 of scarlet fever under treatment. Th were 74 births and 32 marriages during the week.

CENTRAL DISPENSARY AND EMERGENCY HOSPITAL.

At the meeting of the Board of Trustees of the Hospi recently held, the report of the attending staff for the p month was presented and showed the total number of ca treated as follows: emergency, 638; dispensary, 2588; wa 55; deaths, 8; prescriptions, 3210; ambulance calls, 82.

EPISCOPAL EYE AND EAR HOSPITAL.

At the recent meeting of the trustees of this instituti the attending staff reported that during the past nine mont 1111 patients have been treated, 528 white and 537 colored; patients have been received in the wards and 150 operati performed.

Canada.

(From Our Regular Correspondent.)

Toronto, Oct. 14, 189

LUNACY AND CRIME IN QUEBEC.

In a paper on "Judicial Errors in Lunacy," prepared by Geo. Villeneuve, associate professor of mental diseases medical jurisprudence, Laval University, and medical supe tendent, St. Jean de Dieu Asylum, Longue Pointe, Que., Dr. E. P. Chagnon, assistant physician, same asylum, and r at the fifty-fifth annual meeting of the American Med Psychological Association, held in New York in May last, writers limit the scope of their investigations to cases wh have come under the jurisdiction of the criminal courts of Province of Quebec and refer only to those lunatics who h been convicted and sentenced. These lunatics who have fered punishment at the hands of the criminal courts of province are by them divided into two classes. Class A braces those unfortunate ones who have been submitted medical examinations and found insane, but who have convicted and sentenced by the courts in spite of the opi of the medical experts who advised of their irresponsibi These proceedings, the writers denominate "judicial err intentional. In Class B are included all those insane per "whose mental derangement has not been recognized at rial and have been sentenced, the fact of their insanity having een passed unnoticed." In these, no medical opinion was olicited, as in the defense, no plea of mental derangement was ntered. "Judicial Errors" unintentional, these are styled, and t is with this latter class that the paper deals exclusively. After a reference to statistics in regard to this matter in other ountries, as France, England, Germany, Scotland and New York, a table is given for the Province of Quebec, prepared rom the reports of the inspectors of prisons and asylums. From this it is seen that the total number of prisoners in the province, from 1881 to 1897 inclusive, was 65,699; "received nsane during these years," 1197; "became insane during these years," 155; "transferred to the Asylums during these years," 180; "insane remaining in jail at the end of these years," 90; and "insane committed for protection during these years," 498. Out of the total number of lunatics that were admitted to the ommon jails of the province, during these seventeen years, viz.: 1197, only 498 were incarcerated for safe keeping while they were waiting for the proper papers to be prepared and made out or their transference to the asylum. This leaves 699 lunatics who were condemned during all those years, an annual average of 40 unrecognized and condemned cases. On their arrival at he prisons, these were classified as insane in order to disinguish them from others who developed insanity while undergoing sentence; and the large majority of these were removed o the asylums within a few months after their sentence. Then n addition there are cases not entered in the records, condemned lunatics, whose mental derangement had been overlooked, simply because the officials were not competent to judge hem, on account of their state not being sufficiently obvious. nstances of these cases are cited, and the deliverance of one udge is given in a particular case, where the magistrate sent a young woman to prison with these words: "Whereas a young woman of unknown name, but who calls herself the daughter of God, has been found by this court to be a vagrant, a libertine and a nightwalker, etc." Other examples and cases are instanced of a more lamentable aspect where these unfortunates have not only been condemned by the courts without recognition of their insanity, but, who have been imprisoned among convicts and subjected to the same hard régime. From these facts and figures it is manifest that the judges, left to themselves, have been unable to detect insanity in a number of obvious cases, and that these great injustices and abuses should receive prompt and efficient reformation. The conclusions of the essayists are as follows:

"1. It follows from what we have just said, that judges are very often unable to appreciate rightly the mental condition of the prisoners brought before them for trial, because they are strangers to the special knowledge of medicine.

"2. They should then consider it as one of the duties of their office to order a medical examination of the mental state of the prisoners, when the circumstances of the crime committed by them, their attitude or their past history point to a defective mental condition.

"3. On every occasion, when the defense alleges the irresponsibility of the prisoner, they should order a thorough and independent medical examination, covering all the aspects of the case.

"4. They should confide this examination to those who have made a special study of this branch of science.

"5. The jail physicians should examine all prisoners immediately after their reception, and report to the magistrate all those who show any doubtful mental condition."

MALARIA IN TORONTO AND CANADA.

In 1883, Parke published his sixth English edition on hygiene, in which reference is made to the prevalence of malaria in the city of Toronto: "The town stands on ground, originally marshy. The new barracks are built on limestone rocks of the Silurian age. Intermittent fevers among the civil population; not very prevalent among the troops." In all probability the information given in this work was obtained through the medium of the surgeons, connected with the different British regiments, who were stationed at Toronto up to the year 1867. Toronto is a city which has a gradual slope from its northern confines to its southern extremity on the lake front, but on the east and west aspects is drained by the Don and Humber rivers, whose upper courses defile through deep ravines, and whose mouths open through marshy lands, which have within recent years been almost obliterated. At the time, therefore, of the publication of this work, these data were not correct, as thirty years prior to that date many of these creeks and swamps had been drained into the main sewers of the city, and thence to the water front, as the site of the city was such as to afford splendid natural drainage facilities. Long ago malarial outbreaks had become rare, unless some isolated cases occurring in the neighborhood of the outlets of the Don and Humber, and for a number of years there have been no deaths reported as occurring from this disease. Toronto now has some 230 miles of sewers, and if a Toronto practitioner ever diagnoses a case of malaria, it is generally found to have occurred in a recent resident in the tropics or the United States—and even these are few and far between.

Throughout the entire length and breadth of the Dominion, malaria is now not much seen, and it is doubtful if very many of the younger practitioners have had anything whatever to do with it. Now and again it may prevail to a very slight extent on the northern shores of Lake Erie and in the flat regions in the immediate neighborhood of Lake St. Clair. Along the shores of Lake Ontario, Huron and Superior, it is now no more. In the Province of Quebec, in those regions drained by the broad St. Lawrence, it has practically disappeared; while in the northwest and the Pacific province, it is scarcely to be reckoned with as a factor in producing illness. Still withal, the mosquito is forever with us; but on account of the splendid drainage operations that have proceeded throughout the several provinces, his habitat has been disturbed.

OTTAWA MATERNITY HOSPITAL.

The annual report of this institution has just been issued, and there is a deficit of $231.77, put down to the fact that the Ontario Government had cut down the grant from $300 to $92.14, although the work of the Hospital had steadily been increasing. During the past year there have been 85 patients treated, the largest number for one year since the opening of the institution. Her Excellency, the Countess of Minto, is taking a lively interest in the Hospital, and is discussing the advisability of having a new wing erected in the immediate future, at the cost of $1,500, of which amount $900 is already in the treasury for that purpose. This new addition will be called the "Minto" ward. Votes of thanks were passed by the board to the several physicians of the Capital who have rendered medical services.

Deaths and Obituaries.

JAMES CAMPBELL, M.D., president of the Board of Health of Hartford, Conn., died in that city October 17, from cancer of the stomach. He was born in 1848, and studied medicine in the College of Physicians and Surgeons, New York City, and the College of Medicine, Burlington, Vt., graduating from the latter institution in 1871. He then practiced in Minnesota until 1873, when he went to Europe and spent eighteen months in the hospitals and clinics at Berlin, Prague and Vienna. In 1886 he was called to the chair of obstetrics and diseases of women and children at Yale University medical department. This position he held until this year, and in recognition of his ability as a lecturer in the position he was recently made professor emeritus by the faculty. The honorary degree of M.A. was conferred upon him by the university in 1891. In 1890 he established at Yale the Campbell gold medal, which is annually awarded to the student in the medical department who has maintained the highest standing in his studies throughout the three years' course. He was a member of the Connecticut Society, Sons of the American Revolution, and also of the Sons of the Revolution. his title of membership in these patriotic societies being his descent from his great-grandfather, who served in the War of the Revolution. Dr. Campbell was for several years the secretary of the Hartford City Medical Society and afterward of the Hartford County Medical Society. He also served for several years as a member of the board of censors of the City Medical Society. At the time of his death he held membership in the Hartford City Medical Society, Hartford County Medical Society, Connecticut Medical Society, New York Academy of Medicine, American Medical Association. He was lecturer on life insurance examinations at Yale, and a member of the Association of Medical Directors of Life Insurance Companies of the United States and Canada.

A. M. Evans, M.D., Middleway, W. Va., died October 6, after a year's illness with paralysis. He was born in 1842, took his degree of M.D. at the University of Pennsylvania in 1874, and became Grand Master of Masons of West Virginia in 1893.

George H. Jones, M.D., died from apoplexy, at Prince Frederick, Md., October 16. He was chairman of the Democratic State Central Committee of his county and had served in the House of Delegates and as county treasurer. He graduated at the University of Maryland in 1867, and was 54 years old.

Albert L. Jackson, M.D., Washington, D. C., died October 17, aged 42 years. He was a graduate of Howard Medical College and also of Georgetown University. In 1882 he was appointed medical examiner in the pension department, which position he held until his death.

Pedro y Jiminez, M.D., until recently house surgeon of the Columbus Hospital New York City, died October 7, aged 28 years. He was an alumnus of the College of Physicians and Surgeons, New York, and resigned his hospital position only last July preparatory to a return to Porto Rico.

Paul Ellwanger, M.D., died from heart diseases, at Greensboro, Md., October 12. He was a graduate of the Chicago Medical College, and had located for practice in Chicago.

William H. Hardey, M.D., University of Maryland, 1852, died of paralysis, October 9, at "Montrose," near Clarksville, Md. He was aged 79, and school examiner of the county for eight years.

John H. Cochran, M.D., died at Havre-de-Grace, Md., October 10, after an illness of ten days, from heart disease. He was born June 25, 1833, and took his M.D. at the University of Maryland in 1860. He was mayor of Havre-de-Grace in 1892-3, and also several times on the city council.

W. M. Abney, M.D., Benton, La., died October 7, aged 56 years....A. F. Brackett, M.D., Goldfield, Iowa., October 9.... Ira E. Coe, M.D., United States Marine-Hospital Service, San Pedro, Cal....L. W. Hooper, M.D., Newport, Tenn., October 6....Assistant-Surgeon W. R. McAdam, United States Marine-Hospital Service, of yellow fever, at Key West, Fla., October 12....Henry W. Murdoch, M.D., New Richmond, Wis., October 7, aged 77 years.. J. Sherman, M.D., Cherokee, Iowa, October 10....C. L. Von Bach, M.D., Kansas City, Kan., September 29, aged 60 years.

DEATHS ABROAD.

Prof. Domingos Freire, Rio Janeiro, official delegate to the International Medical Congress at Brussels in 1876 and at Washington in 1887, and sent by the Government to Berlin in 1890 to investigate Koch's methods of treating tuberculosis, is dead. His name is best known outside of his own country by his discovery of the yellow fever germ and methods of vaccination with it, but Freire's "cryptococcus xanthogenicus" was never accepted in scientific circles, and many of his own cou trymen were the most skeptical. He continued its propagan to the last. He published a large number of works on organ chemistry and hygiene, and was in his 57th year when he die

Dr. Kirn, professor of psychiatry at Freiburg, was drown in Switzerland recently.....T. Puschmann, professor of t history of medicine at Vienna, "the Nestor of medical histo ians," is dead....James B. Campbell, M.D., London, Ont., di October 12....Dr. Marquis, Brantford, Ont., also died duri the week....Other deaths are: J. B. Canroy, profess of biology at Louvain; C. P. Kowalowsky, professor of hygie at Warsaw.

Association News.

Committee on National Legislation.—The committee the American Medical Association on National Legislatio appointed at the Columbus Meeting, consisting of Dr. H. L. Johnson of Washington, D. C., chairman; Dr. Welch of Joh Hopkins, Baltimore, and Dr. Wm. L. Rodman of Philadelphi will shortly hold a preliminary meeting to map out the poli of the Committee for the coming year in keeping with the res lution of the Association, viz.: "*Resolved*, That the Speci Committee on Legislation be authorized to invite, in the nan of the American Medical Association, the Army Medic Service, the Navy Medical Service, the Marine-Hospital Servic and each state society of legally qualified practitioners medicine, to send one delegate each, to a conference to be he at Washington, D. C., at such time as the Committee may d termine; such conference to consider the medical and sanita legislation now pending, and the members to report to the respective societies, such action as, in their judgment, oug to be taken."

Miscellany.

Sewage Irrigation.—According to the *Scientific Americ* of October 7, investigations have been made of sewage irrig tion on the truck farms south of Los Angeles, Cal. The healt officers have recommended the prohibition of the sale of sewag for the irrigation of land where certain kinds of fruits, veg tables and garden products are grown, stating that the use sewage for that purpose is injurious.

Clinical and Therapeutic Experiences with Tetanus.- According to *Zeitsch. Klin. Med.*, xxxvii, 3 and 4, the Maternit at Prague has been fighting an epidemic of tetanus, for the la year or two, and it has been finally stamped out by closin the clinic and disinfecting for a second time, and since the injecting every patient requiring surgical intervention, wit a preventive dose of Tizzoni's tetanus antitoxin. This ant toxin as a curative in all except the puerperal cases, did n arrest the existing spasms, but evidently prevented the exte sion of the disease process to the brain centers, whose functio is indispensable to life.

Infantile Eczema.—According to Marfan, *Med. Press an Ci.*, October 24, infantile eczema is due to dyspepsia. Th malady exists principally on the face and on the head, exten ing to different parts of the body, only after having occupi these regions. It commences in the third or fourth mont and, if left to itself, disappears only after weaning. It som times affects a special form, the moisture disappears, and t affection thereby merits the name of dry eczema, but th transformation seems to take place especially when the gener condition is modified, when, for instance, the child who h been fat seems to waste away. What constitutes the re danger of infantile eczema is that frequently the surface of t disease becomes infected and produces divers complicatio and in particular impetigo: sometimes bronchopneumonia supervenes. The cause of this eczema resides generally in overfeeding provoking digestive troubles.

Huchard's Sign.—The difference in the pulse between the standing and recumbent posture is less in persons with arterial hypertension, and the proportion may even be reversed. Some tests reported in the *Jour. de Med. Int.*, 2, showed that a healthy young man had a pulse of 68 reclining, with 84 standing. A person with pronounced arteriosclerosis with interstitial nephritis and albuminuria, on the contrary, had 76 reclining and 72 standing. Another with nephritis *a frigore* had a pulse of 88 when reclining and 120 standing.

A Universal Antidote.—The *Pharmaceutical Era*, October 5, emphasizes the use of milk as a universal antidote applicable to most cases of poisoning. By its fatty matter and its casein, it protects the mucous membrane against the corrosive action of acids, alkalies, and other caustic or irritant substances. The chemical rôle of casein is here very remarkable and very valuable. It is able to fill the double part of acid and of base, in the presence of compounds with which it is brought in contact. It not only coagulates under the action of acids, by combining with them, but it also yields a precipitate with most mineral bases, forming insoluble caseates. If precipitation does not immediately take place with a product having a given reaction—acid or basic—this precipitate will appear through the intervention of another substance of contrary reaction. Dr. Crowzel proposes to add to the milk 5 per cent. of borate of soda. This salt is not toxic, and is employed because it precipitates as insoluble borates all the mineral bases, except harmless or slightly poisonous alkaline bases. The poison acids decompose it, seizing on the soda and setting free boric acid, which is less poisonous and less soluble. The mixture of borate of soda and milk is an antidote at once neutralizing and precipitant. It can be used especially with mineral poisons, although we must except cyanids, ferrocyanids, ferricyanids, chlorates, nitrates, arsenites arseniates and oxalates. Of these the first three are precipitable by a mixture of ferrous and ferric sulphate, while chlorates and alkaline nitrates can not be precipitated by any offensive reagent. Arsenites and alkaline arseniates can be eliminated by magnesia. In any case no risk is run, and good may be done by giving milk with borate of soda to one who is thought to have been poisoned. It is the first thing to be done after emptying the stomach. If arsenic is suspected, magnesia should be given. If there are vegetable poisons, the best antidote is a 1 per cent. solution of permanganate of potash, which is harmless in this degree of dilution, and is easily obtained.

Hardening Plaster of Paris.—The *Pharmaceutical Era*, October 12, points out that plaster of Paris may be caused to set more quickly if some alum be dissolved in the water used for rendering it plastic. If the gypsum is first moistened with a solution of alum, and then again burned, the resulting compound sets very quickly and becomes as hard as marble. Borax may be similarly employed. In 1877 the Prussian Government awarded three prizes for inventions submitted at its invitation of processes for hardening plaster-of-Paris casts. The principle consists in this, that the objects are to be treated with a solution of caustic baryta. But it has been found that no matter how deep this penetrates, the baryta is again drawn toward the surface when the water evaporates, a portion efflorescing on the outside, and only a thin layer remaining in the outer shell, where it is converted into carbonate. This at the same time stops up the pores, rendering it impossible to repeat the operation. It was later found that the whole mass of the cast might be hardened by applying to it with a brush made of glass bristles, a hot solution of baryta. To prevent separation of the crystallized baryta at the surface, the object must be raised to a temperature of 60 to 80 C. To produce good results, however, it is necessary to add to the plaster before casting certain substances with which the baryta can combine. These are silicic acid in some form, or the sulphates of zinc, magnesium, copper, iron, aluminum, etc.

Prostitution in San Francisco.—There have been some rather unusual and interesting developments in regard to the novel scheme of some enterprising men of San Francisco for the centralization of prostitution. As stated by the JOURNAL some weeks ago, a company called "The Twinkling Star Improvement Co.," was formed, and a large building erected with alleys and cribs inside the outer walls. Numerous citizens of the vicinity objected and the promoters of the enterprise were arrested for violation of the law in regard to the letting of property for immoral purposes. The cases have been pushed and the court of trial sentenced the men to six months' imprisonment. In spite of their arrest and trial, no effort was made by the police to close the dive. It is stated that the arrested promoters threatened to close every house of prostitution in the city if the case against them was pressed, and that this threat influenced the chief of police, with the result that the dive remained open.

The Company printed and circulated a petition, which was very generally signed. It was "from the Citizens of San Francisco, to I. W. Lees, Chief of Police," and petitioned that no steps be taken toward closing the Hotel Nymphia, at least until the superior court determined whether the directors of the Company were or were not guilty of an offense. It further states that, for the better protection of our homes and families, this subject should be fearlessly faced whenever the occasion demands, and that any steps intended to centralize the prostitutes of the city, and where they may be subjected to reasonable regulation and restriction, would be steps taken in the right direction. It therefore protests against scattering these unfortunate women at large throughout the community, "where they will undoubtedly become missionaries of vice, and taint and degrade reputable women and reputable localities." It also points out that "not only is San Francisco a great commercial center, and seaport town, but within a recent period has become to a certain extent a military center"; and that, as there are not only thousands of sailors to be reckoned with in this problem, but also large bodies of soldiers entering and leaving the city, "the protection of reputable women demands that some such safety-valve as the Hotel Nymphia should be tolerated." Further, it reads:

"We beg leave further to point out that, so far as the Hotel Nymphia itself is concerned, its location, in Chinatown, is such as to remove it from the ordinary and usual paths of all who do not purposely seek it. No better site for an establishment of this kind could possibly be suggested than the present one; and we are given to understand that the arrangements there made for the preservation of order and the maintenance of sanitary regulation, and the exclusion of minors, are as nearly perfect as any that could be devised.

"We trust, therefore, that in the interests of the reputable women of this community, and in the interest of the sanitary condition of the city and its inhabitants, you will not act hastily in this matter."

Whether or not this most remarkable document, which was extensively signed, did much or little to influence the judgment of the Chief of Police, can not be said. But the Hotel Nymphia is still open and drawing crowds of human flies to its rottenness.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from October 6 to and including Oct. 19, 1899:

Wiley L. Athey, acting asst.-surgeon, from New York City to the Department of California.

Alfred E. Bradley, major and surgeon Vols. (captain and asst.-surgeon U. S. A.), to represent the medical department of the army at the meeting of the American Public Health Association in Minneapolis, Minn., October 30 to Nov. 3, 1899; also from duty as acting chief surgeon of the Department of Dakota to post duty at Fort Snelling, Minn.

Robert Burns, recently appointed captain and asst.-surgeon Vols., to rank from Sept. 9, 1899, is assigned to the 49th Vol. Inf. which he will join on its arrival in the Philippine Islands.

Peter J. A. Cleary, lieutenant colonel and deputy surgeon-general, U. S. A., to duty at Fort McPherson, Ga.

Francis G. Engelhardt, acting asst.-surgeon, from Syracuse, N. Y., to the Department of California.

Joseph B. Girard, major and surgeon, U. S. A., from Jefferson Barracks, Mo., to the medical supply depot at St. Louis, Mo.

William G. Gregory, acting asst.-surgeon, from Cave in Rock, Ill., to San Diego Barracks, Cal.

Thomas D. Ingram, acting asst.-surgeon, sick leave extended.

Simon P. Kramer, major and surgeon, Vols., honorably discharged on tender of his resignation, to take effect Oct. 31, 1899.

George B. Lawrason, acting asst.-surgeon, from Washington, D. C., to New Orleans, La., for annulment of contract.

Charles H. Lowell, acting asst.-surgeon, sick leave extended.

Charles E. Marrow, lieutenant and asst.-surgeon U. S. A., from duty in the Department of Santiago and Puerto Principe to the Department of California.

Clarence B. Millhoff, lieutenant and asst.-surgeon, U. S. A., from the general hospital at San Francisco, Cal., to duty with troops going to Manila, P. I.

William F. de Niedmann, major and surgeon, Vols., leave of absence extended.

Walter Reed, major and surgeon, U. S. A., to represent the medical department of the army at the meeting of the American Public Health Association in Minneapolis, Minn., October 30-Nov. 3, 1899.

John T. H. Slayter, acting asst.-surgeon, from Cambridge, Mass., to the Department of California.

William E. Stemen, acting asst.-surgeon, from Kansas City, Kan., to the Department of California.

Francis M. C. Usher, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

Stanley S. Warren, acting asst.-surgeon, from Hot Springs, Colo., to Fort Clark, Texas.

Marshall W. Wood, major and surgeon, U. S. A., from Honolulu, H. I.

Robert S. Woodson, captain and asst. surgeon, U. S. A., from Fort Clark, Texas, to the Department of California.

Joseph P. Wright, colonel and assistant surgeon-general, U. S. A., from the medical supply depot at St. Louis, Mo. to the Department of Dakota as chief surgeon.

William C. Berlin, appointed lieutenant and asst.-surgeon Vols., to rank from Oct. 17, 1899, and assigned to the 45th Inf. Vols.

Henry P. Birmingham, major and surgeon U. S. A., from Fort Douglas, Utah, to the Department of California.

George M. Bradfield, acting asst.-surgeon, from Fort Columbus, N. Y., to duty at Fort Ontario, N. Y.

John R. Clark, acting asst.-surgeon, from the General Hospital, San Francisco, Cal., to duty with troops going to the Philippine Islands.

Frank Donaldson, lieutenant and asst.-surgeon, 45th Inf. Vols., honorably discharged on tender of his resignation, to date from Oct. 17, 1899.

Charles R. Gill, acting asst.-surgeon, now at Fort Hamilton, N. Y., is assigned to duty at that post and relieved from further service in the Department of Matanzas and Santa Clara.

James B. Hallwood, acting asst.-surgeon, from the 39th Inf. Vols., at Fort Crook, Neb., to the General Hospital, San Francisco, Cal.

Aubray F. Higgins, acting asst -surgeon, now at Jefferson Barracks, Mo., to report for temporary duty with the 49th Inf. Vols.

Evan P. Howell, acting asst.-surgeon, from the Department of California to duty with troops going to the Philippine Islands.

Thomas D. Ingram, acting asst.-surgeon, from duty at Fort McIntosh, Texas, and on the expiration of his present sick leave, to report at Washington, D. C., to the surgeon-general.

Arthur Jordan, acting asst.-surgeon, from Richmond, Va., to San Francisco, Cal., for duty in the Department of California.

Albert H. Macbeth, acting asst.-surgeon, from Buffalo, N. Y., to the Department of California.

Louis M. Maus, major and surgeon U. S. A., from Fort Hamilton, N. Y., to San Francisco, Cal., for duty in that department.

William Grey Miller, acting asst.-surgeon, from the Detention Camp at Angel Island, San Francisco Harbor, to duty with troops going to the Philippine Islands.

Frank J. O'Hare, acting asst.-surgeon, from New York City to temporary duty at Fort Myer, Va.

James B. Pascoe, acting asst.-surgeon, from New York City to duty in the Department of California.

Hugh L. Taylor, acting asst.-surgeon, from Vancouver Barracks, Wash., to Fort Douglas, Utah.

James S. Wilson, lieutenant and asst.-surgeon, U. S. A., former orders directing him to appear before a board for examination for promotion, revoked.

On October 18, 1899, by direction of the Secretary of War, paragraph 18, S. O. No. 202, August 29, 1898, convening a board of medical officers to meet on the hospital ship *Missouri* for the examination of certain officers of the medical department for promotion, was revoked.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Oct. 21, 1899:

Surgeon O. D. Morton, detached from the *Badger* when put out of commission and ordered to temporary duty on the *Ranger*; on arrival at the Asiatic station ordered to the *Monadnock*.

P. A. Surgeon L. I. Young, ordered to be examined at the Mare Island navy yard, October 24, chapter 15, title 3, thence home and to wait orders.

P. A. Surgeon J. Stoughton, detached from the *Monadnock*; when relieved, and ordered to the *Bennington*.

Asst.-Surgeon J. J. Snyder, ordered to the *New Orleans*.

Asst. Surgeon D. G. Beebe, detached from the *Bennington*, when relieved, and ordered to the *Ranger*

P. A. Surgeon J. C. Rosenbleuth, detached from treatment at the naval hospital, Chelsea, Mass., and granted sick leave for one month.

Asst -Surgeon R. W. Plummer, detached from the hospital, New York navy yard, and ordered to temporary duty on the *New Orleans* for passage to the Asiatic Station.

P. A. Surgeon H. D. Wilson, directed to proceed home and to wait orders

P. A. Surgeon H. D. Wilson, order of October 17 modified; detached from duty on the *Solace*.

Surgeon H. T. Percy, detached from the *Olympia* when put out of commission, and ordered home and to wait orders.

Asst.-Surgeon D. H. Carpenter, detached from the *Olympia*, when put out of commission, and ordered home and to wait orders

Pharmacist A. Hammar, detached from the *Olympia* when put out of commission, and ordered to the Mare Island navy yard.

Asst -Surgeon E. Thompson, detached from the *Manila* and ordered to the *Celtic*.

Asst -Surgeon W. E. High, detached from the *Celtic* and ordered to the *Manila*.

Asst.-Surgeon H. H. Haas, detached from treatment at naval hospital, Yokohoma, Japan, and ordered to the *Baltimore*.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Oct. 20, 1899.

Surgeon Eugene Wasdin, to proceed to Berlin, Germany, for special temporary duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Montezuma, Georgia, for special temporary duty, Oct. 13, 1899.

Asst.-Surgeon C. E. Decker, relieved from "waiting orders" and placed on duty to date from Oct. 7, 1899

APPOINTMENT.

Frank Boyd of Kentucky to be Acting Assistant-Surgeon, U. S. Marine Hospital-Service, for duty at Paducah, Kentucky.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Oct. 20, 1899:

SMALLPOX—UNITED STATES.

Kansas: Butler County, October 11, 9 cases, 1 death.
Massachusetts: Chelsea, October 7 to 14, 4 cases; Everett, October 1 to 14, 3 cases, 2 deaths; Melrose, October 7 to 14, 1 case.
Michigan: Saginaw, October 1 to 7, present in two localities.
Mississippi: Natchez, October 12, 4 cases.
Ohio: Cincinnati, October 7 to 14, 1 case
Pennsylvania: Pittsburg, October 7 to 14, 1 case.
Virginia: Portsmouth, October 7 to 14, 1 case, 1 death.
Washington: Orcas Island, October 6 to 14, 14 cases, 1 death.

SMALLPOX—FOREIGN.

Brazil: Bahia, September 2 to 6, 1 case.
Greece: Athens, September 23 to 30, 7 cases, 3 deaths.
India: Bombay, September 12 to 19, 9 deaths; Madras, September 9 to 15, 1 death.
Mexico: Chihuahua, October 1 to 7, 2 deaths; Mexico, October 1 to 7, 2 deaths.
Russia: Moscow, September 16 to 23, 2 cases, 2 deaths; Warsaw, September 16 to 23, 4 deaths.
Turkey: Erzeroum, September 2 to 9, 4 cases, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Key West, October 6 to 16, 182 cases, 9 deaths.
Louisiana: New Orleans, October 12 to 17, 1 case.
Maryland: Baltimore, October 7 to 14, 1 case, 1 death (taken from steamship *Armstor*, from Santiago de Cuba),

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CHANGE OF ADDRESS.

Abbott, A. C., from 221 S. 44th St. to 4229 Baltimore Ave, Philadelphia.
Beebe, J. E., from 1066 Winthrop to 2668 Magnolia Ave, Edgewater Sta., Chicago.
Buffington, W. R., from Magnolia to Harlow, Ark.
Bridenstine, S. J., from Port Orchard to Ballard, Wash.
Briggs, T. C., from 191 Island St., Minneapolis, Minn. to Centralia, Wash.
Cole, R. King, from Dallas, Texas to M. K. & T. Ry Hospt., Sedalia, Mo.
Conway, A. J., from Battle Creek, Mich. to Sanitarium, Boulder, Colo.
Derosier, G. W., from San Francisco to Colusa, Cal.
Denison, C. E., from 215 W. 34th to 68 W. 71st St., New York City.
Dickson, —, from New Orleans to 324 Texas St., Shreveport, La.
Davis, E. A., from Hicks Warf, Va. to Mammouth, W. Va.
Furlong, M., from 228 E. 47th St. to 2136 Indiana Ave, Chicago.
Gleitsman, E., from 118 Park St. to 654 N. Hoyne Ave, Chicago.
Goelet, A. H., from 116 W. 74th to 70th and Broadway, New York City.
Hotopp, G., from New Castle to Glenwood Springs, Colo.
Headrick, C. M., from 1224 to 1219 K St., Lincoln, Neb.
Hare, J. D., from Lincoln to Waverly, Neb.
Howard, E. F., from care Banks Drug Store to Piazza & Batto Bldg, Vicksburg, Miss.
Horton, R. W., from Wynnewood, I. T. to Fort Worth, Texas.
Hartshorn, W. E., from New Haven, Conn. to care Roosevelt Hospt., New York City.
Hunter, G. F., from Denver, Colo. to 900 Sutter St., San Francisco, Cal.
Kadlubowski, T. L., from Detroit, Mich. to 265 Chapin St., South Bend, Ind.
Kellogg, G. M., from Chicago to Prescott, Arizona.
Long, R. D., from 7100 So. Chicago Ave. to 813 W. Harrison St., Chicago.
Lee, Elmer, from 10 W. 49th to 16 E. 47th St., New York.
Mitchell, J. M., from 697 Jackson Boul. to 42 Laflin St., Chicago.
Moody, H. A., from Bailey Springs to 938 Government St., Mobile, Ala.
McCoffrey, P. J., from Pittsburg, Pa. to 68 Luther St., Cleveland, Ohio.
McCurdy, J. R., from Monongahela to 3248 Chestnut St., Philadelphia.
McConachie, A. D., from 16 W. Franklin to 805 N. Charles St., Baltimore, Md.
McGill, J. D., from 272 Montgomery to 124 Mercer St., Jersey City, N. J.
McKinney, W. T., from 108 W. Chestnut to 26th and Jefferson Sts., Louisville, Ky.
McKee, H. N., from La Gro to Woodburn, Ind.
Munn, C. E., from Fort Logan, Colo. to Topeka, Kans.
Niedringhaus, R. E., from 2310 N. 14th St. to 2238 University St., St. Louis, Mo.
Pine, O. S., from St. Paul to Minnehaha, Minn
Payne, D. A., from Chicago, Ill. to Gainesville, Texas
Steen, E. R., from Chicago to Silver Cross Hospt., Joliet, Ill.
Snydacker, E. F., from London, England to care Baronin V. Waugenheim, Lederer Gasse, Vienna, Austria.
Starner, A. A., from Mt. Hope to Danville, Ohio
Shastid, T. H., from Battle Creek to 1129 Michigan Ave, Ann Arbor Mich.
Shelby, P. A., from 760 6th St. to 512 W. Broadway, Louisville, Ky
Stogel, J. B., from Chicago, Ill. to Hammond, Ind.
Sowers, Z. T., from Port Hope, Canada, to 1320 New York Ave, Washington, D. C.
Wolfe, L. E., from Freeburg to Manheim, Pa.
Weber, W. C., from 405 Prospect St. to Osborn Bldg, Cleveland, Ohio
Yarbrough, C. C., from 293 Boulevard West, to 352 Field Ave, Detroit, Mich.

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Original Articles.

OUTLINES OF URETHROSCOPIC DIAGNOSIS WITH SPECIAL REFERENCE TO CHRONIC GONORRHEA.*

DEMONSTRATION OF A SIMPLIFIED URETHROSCOPE.

BY FERD C. VALENTINE, M.D.
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NEW YORK CITY.

Our time is certainly one of giant strides toward exactitude in the diagnosis of disease. No plea, therefore, seems necessary, for the visual exploration of organs as a basis for treatment. What, indeed, would be thought of the eye specialist who has no ophthalmoscope? Who would attempt to treat the throat without a laryngoscope? Light is now carried even into the stomach, and illumination of the bladder is no longer a novelty. Nevertheless, many still appear to consider the urethra the stepchild of the organism. This is due it, seems, to the instruments that have been thus far advocated for throwing light into the dark channel. They have failed to become generally used, either because their illumination was defective, or because of their complicated character. The consequence is that the treatment of chronic gonorrhea continues to be to some the most unhappy guesswork. To others it is a hopeless task, undertaken with misgivings and discarded in desperation. What wonder then that the quacks make this their favored field, to begin with promises, to end with the limit of the patient's purse. The immense number of men whose lives are rendered miserable and abbreviated by chronic gonorrhea, the large number of innocent women and children whose existences are wrecked in consequence of the same disease, make all efforts directed to its cure worthy of most serious consideration.

The chief essential in chronic gonorrhea is, manifestly, as in other diseases, to ascertain its cause. An instrument is necessary to show the practitioner where the disease lies, and what is its character. The instrument to effectually do its work must be simple in construction, easy to use, not prone to get out of order, and always reliable.

If the view of those who honor me by calling me their fellow-specialist is a guide, all these ends are attained by this urethroscope, which I had the privilege of publicly demonstrating for the first time before our genito-urinary section of the New York Academy of Medicine, March 14, 1899.

This instrument, made for me by the Electro Surgical Instrument Co., Rochester, consists of urethroscopic tubes running from Nos. 24 to 32 F. In general appearance they differ little from the Nitze-Oberlaender tubes with burnished ends as modified by Kollman. This modification permits urethral examination from before backward as well as from behind forward. The disc at the visual end is, however, larger, to safely hold the spur, and for easy and firm attachment of the light-carrier and the megaloscope.

Each tube is provided with its obturator, stamped on the handle with a number to correspond with the tube to which it belongs. The distal end closes the urethral tube, to permit its easy introduction and has a deep slit, corresponding with a similar slit in the handle. These slits permit air to easily enter the tube, facilitating the removal of the obturator and preventing any suction on the urethral mucosa.

The light-carrier is a delicate but very firm strip, containing the insulated wires that illuminate the lamp, which is enclosed in a glass capsule. By this means bright light is brought into almost immediate contact with the spots to be examined, be they ever so small. At its proximal end the light carrier is bent downward a trifle more than at a right angle, enabling it to be easily and readily attached to the tube, by its engaging frictionally under a small flange situated at the base of the spur on the disc. From the bend thereof the insulated connections for the battery wires project; they are so curved that they do not encroach on the visual orifice of the urethral tube.

In general appearance the light-carrier resembles the one used in the Nitze-Oberlaender urethroscope. It differs essentially in that the lamp gives no appreciable heat, and consequently requires none of the cumbersome water-cooling arrangement. Furthermore, the lamp being permanently fixed at its end, it is not exposed to twisting and short-circuiting, as happens almost continually with what was the best instrument for direct urethral illumination. This lamp is not likely to burn out, unless the most gross carelessness is employed. Moreover, the light being enclosed in glass permits the operator to leave the lamp in place while swabbing secretions from the urethra, performing cauterizations, slitting infiltrated glands, electrolyzing, finding the opening of devious strictures and throughout the course of every other diagnostic and remedial procedure.

The megaloscope consists of a series of lenses in short telescoping tubes attachable by an auxiliary tube on its side to the spur on the disc. By means of the megaloscope, whose focus is easily changed, the view of every part of the urethra can be magnified sixteen diameters. The interspace between the visual orifice of the tube and the objective end of the megaloscope suffices to allow the introduction of instruments for operative procedures within the urethra.

The battery and instruments are all in a leather case of 10½x7½x5 inches, the whole weighing about ten pounds. The outfit is easily transportable and inexpensive. The manufacturers guarantee the battery to furnish light for at least thirty hours. Therefore, even if ten minutes be devoted to each urethroscopy, the cost would be trifling, as the renewal of batteries is inexpensive.

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

THE TECHNIC OF URETHROSCOPY.

Anterior Urethroscopy.—1. Have the patient lie on the table or sit on a chair. The former is preferable when remedial measures are to be employed. When placed on a chair, the patient should sit as far forward as possible, on its front edge, its back supporting his shoulders and his legs wide apart.

2. Cleanse the foreskin, glans and meatus thoroughly with absorbent cotton, soaked in bichlorid 1 to 6000.

3. Select the urethroscopic tube that will readily pass the meatus. Those experienced in urethroscopy will have no difficulty in doing this. The novice will do well to employ a Piffard meatometer, which often reveals that a meatus which appears to be very tight is rapidly and painlessly extensible, so that it will offer no resistance to a very large tube. On the other hand, it will often show that quite a large meatus is no guide to a very tight posterior boundary of the fossa navicularis. In the latter case, a much smaller tube must be used, or preliminary deep meatotomy performed.

4. After cleansing the tube and obturator, pass each one separately through the flame of an alcohol lamp or Bunsen burner. This done, insert the obturator into the tube and pour glycerin on them until the tube and especially the projecting tip of the obturator, are thoroughly lubricated.

5. Take the penis in the left hand as for anterior irrigation[1].

6. Insert the tube gently without any gyrating motions, until it is arrested by the compressor urethræ muscle, or the anterior layer of the triangular ligament. If it does not readily proceed so far, stricture or some other abnormality obstructs its progress. Then a smaller tube must be used. Only exceptionally is there any practical value in employing a tube smaller than 24 F., save in the hands of urethroscopic experts. On the other hand, a tube so large as to give pain or produce excessive bleeding, thwarts the purposes of urethroscopy.

7. Turn the obturator slightly, without drawing it outward. As soon as it is felt to lie loosely within the tube, from the ingression of air, it may be removed.

8. Dry the urethra of excessive secretions by gently mopping it, through the tube, by means of applicators wrapped with absorbent cotton. Uncut match-sticks are desirable for this purpose.

9. Insert the light-carrier, and fasten it under the flange at the base of the disc.

10. Attach the megaloscope, when required.

11. Draw the tube slowly out of the urethra. As this is being done, all its parts fall into view. When a spot in the urethra requiring special investigation or treatment is met, bend the penis over the tip of the tube in the direction opposite the side at which the point to be examined appears. This stretches the mucosa at such point for better examination or treatment. The fourth or fifth finger of the left hand, holding the penis, can push the urethra still farther into view.

12. To insure against infection, it is well to irrigate the anterior urethra after a urethroscopy, as after any other instrumentation.

Posterior Urethroscopy.—1. Place the patient in the position for perineal section.

2. Perform the steps indicated above (1 to 6). When the tip has reached the compressor, make gentle pressure against it, at the same time depress the tube between the thighs. Then, just at the beginning of the interval between expiration and inspiration, gently thrust the tube inward and slightly upward. Usually the grasp of the compressor is felt on the tube for an instant; immediately thereafter it can be easily drawn forward and backward. This should not be done brusquely, lest the tip injure the very sensitive posterior urethra.

3. Withdraw the obturator. This is followed by some urine.

4. Dry the posterior urethra as much as possible, with absorbent cotton wrapped about applicators, taking more care than ever to use no violence. A little blood on the cotton withdrawn is not unusual.

5. Insert the light-carrier. Even if urine does trickle into the posterior urethra and out through the urethroscope, it will not extinguish the light, as it would were an uncovered incandescent wire employed. The posterior urethra can therefore be most deliberately examined, its secretions mopped up, and applications made under the guidance of sight.

An intravesical irrigation of potassium permanganate, 1 to 6000, or of boric acid 4 per cent., should be made, after posterior urethroscopy.

DIAGNOSIS.

The Urethra in Health.—It is hardly any longer a question whether the physician is ever warranted in inserting an instrument into the healthy urethra. Scrupulous asepsis of the instruments, exquisite gentleness in the technic, render the study harmless to the patient and of surpassing usefulness to the physician. Nevertheless, if scruples, which should be respected, prevent a practitioner from studying the healthy urethra, there remains for him a category of persons with normal genitalia, to whom urethroscopy is a decided benefit. I refer to neurasthenics. No matter how perfect the condition of their urinary channels, nor how firm the physician may be in assuring them of that fact, they are well satisfied and believe themselves improved with each urethroscopic examination.

The study of urethroscopy on cadavers is absolutely useless. Circulation having ceased, the natural color and consistency of the mucosa is gone, and offers no means for comparisons.

A first glance into the normal urethra reveals a red glare, recalling one's initial effort at ophthalmoscopy. With very little practice one learns to distinguish brilliancy, colors, folds and striæ. The normal "central figure" that presents when the tube is held in the exact axis of the canal merits study, as do also the mouths of the crypts, which become evident to the investigator a little later on. It will be found that the urethra, like other organs, varies exceedingly within the limits of health.

THE NORMAL ANTERIOR URETHRA.

The normal brilliancy of the urethra varies in its different parts. The cavernous portion is so brilliant that it suggests disturbing reflexes. The fossa is perhaps almost as brilliant, but the paleness of its submucous tissues makes the whiteness thereof more apparent.

The normal color varies considerably. It may be nemic—pale or light pink; moderately hyperemic—oseate to red; hyperemic—intensely red.

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[1] Valentine: "The Irrigation Treatment of Clap," Internat. Jour. of Surg., September, 1898.

The normal folds vary with the caliber, thickness nd consistency of the urethra. A narrow, anemic ure-ra shows slight folds or none at all, while a wide, ick, coarse urethra contains five to eight folds of ucous membrane, more or less deep.

The normal striæ appear as fine yellowish-white arks, radiating from the central figure, on the emi-ences of the folds. This striation is not found in all rethræ.

The normal central figure suggests the opening of a ubber "spring" tobacco-pouch, where the distal end f the tube presses against the mucosa by its weight. ver so slightly drawing the penis out gives this region funnel-like appearance, leaving the "central figure" mewhat smaller, and differing in various parts of the rethra. Just behind the glans it appears as a small ound or oval opening; deeper within the urethra it oks like a closed dimple; at the bulb its lower half rches forward.

When drawing the tube out of the urethra, five to ten allow little depressions fall into view, most of them ntrally located toward the upper two-thirds of the nal. Those are the openings of the Morgagnian crypts.

The megaloscopic attachment will considerably aug-ent the apparent size of the above described parts. It ill also make evident the superficial blood-vessels of the rethra.

The colliculus seminalis is usually the first thing seen the posterior urethra. It is about the size of a split ea, semiglobular in shape, sometimes flattened and nooth, sometimes elevated and with a furrowed sur-ace. It has the same red color as the surrounding ucous membrane. Depressions, suggesting crypts, ay sometimes be seen about it. These are the openings f the prostatic sinus and of the prostatic and ejacula-ry ducts.

The sinus pocularis varies in shape and size in ccordance with the variations in the colliculus. In me cases it extends to the end of the bulb, in others is exceedingly short.

The posterior urethral funnel is very short.

The brilliancy of the posterior urethral mucosa is ss than that of the anterior.

The posterior urethral folds are so shallow as to con-ey frequently the impression of complete obliteration.

The anterior boundary of the posterior urethra is aturally the posterior boundary of the anterior urethra. he withdrawal of the tube marks it clearly, not alone y the release from the tight grasp of the compressor on e tube, but also because of the appearance of the arked folds of the bulbous portion.

Bleeding at a posterior urethroscopy is not at all in-requent, especially when made for the first time.

URETHROSCOPY IN ACUTE URETHRITIS.

In obedience to ordinary surgical principles, no in-trument should be inserted into an acutely inflamed rethra. The only exceptions therefor arise when a for-ign body must be removed, or when catheterization is ecessary to relieve retention of urine. These, however, re emergency operations, undertaken in order to over-ome immediate peril, and with full consciousness of the anger of systemic infection to which the patient is ex-osed by the operative maneuver. But for the causes amed, there would be no purposes in subjecting the pa-ent to the pain and danger of urethroscopy while a ure-hritis is acute. Besides, the discharge would occlude the ube, rendering visual examination impossible. Moreover, as no possible benefit can be derived by the patient, the physician is not warranted in risking the loss of his eyes in the necessarily close contact with the infected urethra.

URETHROSCOPIC APPEARANCES IN DISEASE.

For the student's convenience, the appearances of the urethra are hereby alphabetically arranged. Nothing further than a mere introduction to the study of urethroscopic diagnosis is herein attempted.

Bleeding in Posterior Urethra.—It bleeds readily from mere contact with the tube, in the soft infiltration of chronic posterior urethritis.

Bleeding Spots.—Where epithelial denudations have been followed by slight granulations, these latter bleed easily.

Blood-vessels.—These are not visible in hard infiltrations.

Brilliancy.—(See luster.)

Caput Gallinaginis.—This is of pale, yellowish color, and lacks luster; does not project, is not wrinkled, but is flat and smooth in hard infiltration of the posterior urethera.

Central Figure.—This appears as a wide funnel in hard (dry) infiltrations.

Color.—A dull-gray appears in hard infiltrations.

Cyanotic Purplish Color.—This, in the posterior urethra, evidences soft infiltration.

Denudation.—There is epithelial denudation in advanced inflammatory processes.

Desquamation.—There is distinct epithelial desquamation in hard infiltration. Slight epithelial desquamation exists in somewhat advanced inflammation.

Dull, Dry Epithelium.—With a lackluster appearance, this indicates subepithelial inflammation of the glands. Their orifices are then not visible.

Dull, Uneven Mucosa.—When this is in the first stage of inflammation, the cellular infiltration is denser than ordinarily.

Epithelial Denudation.—This occurs in advanced inflammatory processes.

Epithelium Desquamating.—(See desquamation, epithelial—distinct and slight.)

Folds.—These are absent in hard, dry infiltrations; grosser, thicker, coarser, broader, and four to six in number instead of eight to twelve, in more dense cellular infiltration than usual in the early stage of inflammation.

Gaping Glands.—The orifices in Littré's glands and the Morgagnian crypts gape and are surrounded by a puffy, red, prominent wall, forming a distinct boundary from the healthy tissues in the more severe forms of chronic gonorrhea, with consequent infiltration around the crypts. Occasionally some secretion oozes from the orifices, in this stage of urethritis mucosæ, or soft infiltration.

Glands and Crypts.—These are always visible in the first degree of hard infiltration, as red, inflamed spots. They are not visible, or but very few appear, in the second variety of infiltration (dry infiltration), as their orifices are covered by epithelium and connective tissue.

Glandular Orifices.—When mucosa is diseased, more are visible than in health. When the epithelial layer of the mucosa is destroyed, more or less of each gland is exposed, according to the depth of the invasion. They appear as minute, red specks, mostly in groups. When the megaloscope is used, the glandular form and ducts become plainly visible.

Granulations.—These appear on spots that have been denuded of their epithelium. They often bleed readily on contact with the margin of the tube.

Grey Color.—In hard, dry infiltrations, the mucosa has a grey color.

Greyish Opaque Veil.—This covers the mucosa in severe infiltrations.

Hard Infiltration.—This is rare in the posterior urethra. It is the outcome of transformation of cellular into fibrous infiltration. Its urethroscopic manifestations naturally vary with the progress of this transformation.

Hillocky Mucosa.—This occurs in hard infiltrations. The mucosa has lost its brilliancy, and may distinctly desquamate.

Infiltration.—Hard infiltration is rare in the posterior urethra; soft infiltration is frequent in chronic posterior urethritis.

Littre's Glands.—These are grouped about the Morgagnian crypts. They are ordinarily not visible in health. The experienced urethroscopist employing the megaloscope, may, however, in many cases, see the mouths of the normal Littré's glands and even part of their ducts, as they descend beneath the epithelium of the mucosa. The mouths of these glands may remain visible for a long time after the urethra has returned to health. They may also, on the other hand, be superficially invisible in disease, if the pathologic process occurs subepithelially. The form of disease affecting these glands, whether visible or not, shows its results on the Morgagnian crypts, about which they are clustered. The greater the intensity of the infection of Littré's glands, the more clearly are the mouths of the Morgagnian crypts evident. The mouths of Littre's glands, in simple swelling, present as small, red points. Large, red points, projecting into the urethra, show that Littré's glands are in a state of infiltrative inflammation; the glands are invisible in the dry form of hard infiltration. In this condition, the epithelium looks dull (lackluster) and dry, and desquamates in spots.

Luster.—This is apparently increased by liquid—glycerin, cocain, mucus, or urine—left on the mucous lining. To prevent error, the surgeon should attempt to remove any excessive luster by careful use of absorbent cotton attached to applicators. It is decreased with increased infiltration and in epithelial desquamation with or without infiltration. The brilliancy is entirely lost in hard infiltrations. It is gone in epithelium covering glandular orifices, with dull dry appearance of mucosa; subepithelial inflammation of the glands is indicated thereby. Luster is increased in the subacute superficial urethritis. The mucosa is congested and swollen from cellular infiltration. The luster of the posterior urethra is increased in soft infiltration.

The Morgagnian Crypts.—These are visible in all chronic diseases of the urethra, and are modified according to the intensity of the disease in Littré's glands; the mouths of the crypts are larger than those of their surrounding Littré's glands, often appearing as quite decided dark red slits. The variations from simple swelling to infiltrative inflammation are similar to those which take place in Littré's glands. When in megaloscope is used, and slight pressure made on an opening of a crypt by bending the urethra, pus may be seen welling from the red slit. Its patency "gaping" will then become more evident, and show that it is not a tear in the urethra, but really a widely open emunctory duct.

Neoplasms.—The most frequent tumors of the urethra are papillomata and fibrous polypi. Carcinoma of the urethra is very rare. Oberlaender was the first to make an early diagnosis of carcinoma by means of the urethroscope (1893).

Opaque Greyish Veil.—This covers the mucosa in severer forms of infiltration.

Posterior Urethroscopy.—This is not permissible acute or subacute posterior urethritis, in tuberculo nor in acute prostatitis.

Prominence.—A reddish prominence within the r cosa, with a central dimple and invisible lumen, is s when the inflammation has become follicular. The ger can feel these encapsulated follicles as small h nodules. Their breaking down may produce periu thral abscess.

Psoriasis Mucosae Urethralis.—Oberlaender—(white patches).

Purple Color.—(See cyanotic color.)

Red Specks.—Red specks with swollen, puffy s roundings, occasionally exuding a watery, milky or p ulent discharge, show a mild inflammation of the M gagnian crypts. (See also glandular orifices, and l tré's glands.)

Resistance.—Resistance to the urethroscopic tube it is being introduced is felt in hard infiltrations.

Rigid Urethra.—The denser the fibrous tissue dry, hard infiltration, the more rigid does the ureth become; in its fully developed form, there appear white cicatricial tissue, spotted with groups of the orifices of Littré's glands.

Scaly and Uneven Epithelial Layer.—This exists severer infiltrations.

Smoothness of Epithelium.—This is lost in seve forms of infiltration of the mucosa.

Specks—Red. (See glandular orifices, also Litt glands.)

Specks—White. (See white patches.)

Striae.—These are almost or quite obliterated dense cellular infiltrations; no vestige of them rema in hard, dry infiltrations; they may be absent in a n mal urethra.

Swelling of Mucosa of Posterior Urethra.—This curs in soft infiltration.

Transparency.—The transparency is lost in hard filtrations.

Tumors.—(See neoplasms.)

Ulcerations.—These, if due to epithelial denudatio of inflammatory origin, are usually longitudinal. Th may result from traumatism produced by excessive violent dilatation. Ulceration of a circular tender may be chancre or chancroid.

Uneven and Dull Mucosa.—This occurs in denser lular infiltration, at the first stage of inflammation.

Uneven and Scaly.—There is an uneven and sc epithelial layer in severe infiltrations.

Veil.—A thin veil seems to cover the urethra in h infiltrations; in spots, elevated, scales are present. Th gradually heal.

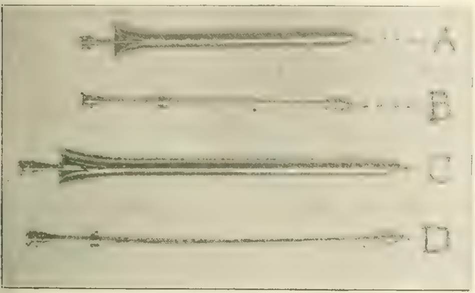
White Patches.—These, irregular in shape, fr small specks to large patches, were called "psori mucosæ urethralis" by Oberlaender. Kollman fo these psoriatic pellicles to consist of cumuli of fir agglutinated epithelial cells, whose nuclei stained tinctly with Bismarck brown. These epithelia wer polygonal pavement shape, rounded epithelia and s high cylindric, as are found on the prostate. course of this psoriasis is very chronic.

In the preceding pages, as is evident, no preten give more than outlines of urethroscopic diagnosi attempted. I hope that enough has been said to p the need of distinctly seeing all parts of the ure before any ideas of the treatment of its diseases be formed. My efforts in the development of the u roscope to an effective instrument, as easily manageable in the hands of the general practitioner as in those of the specialist, will, I hope, stimulate others better equipped than I, to further the interests of science in this unfortunately neglected channel.

To summarize my thoughts on the subject: 1. No chronic disease of the urethra can be diagnosed or intelligently treated without the urethroscope. 2. The technic of urethroscopy is not difficult. 3. A urethroscope must be easily manageable, of a prime cost, and of a price of maintenance within the means of the average general practitioner. All these requirements I think are attained in the little instrument I have the honor of demonstrating.

DISCUSSION.

Dr. L. B. Tuckerman, Cleveland, Ohio—I do not desire to open up a discussion on a question on which I am not competent to speak. I am a tyro in urethroscopy, working with an instrument of my own devising and with a head mirror. I wish to compliment Dr. Valentine on the exceeding beauty of the light and the results; but I wish to show an instrument by which urethroscopy can be extended into cystoscopy. I have for the purpose of vesical examination made a slight modification in the shape of the obturator. You know, when you introduce the ordinary instrument to the end of the patulous urethra, if the obturator, the point being at the mathematic center of the circumference of the instrument, in the hands of the ordinary practitioner, catches under the opening in the triangular ligament, it makes some considerable pain to the patient to get it in. I have modified the shape of the obturator, making the point at the side, instead of in the middle, and, by that means, with a little care, the point enters with ease through the triangular ligament into the membranous urethra over the prostate and into the bladder, and with Dr. Valentine's light, you can see the fundus of the bladder, just as easily as you can the urethra, and by altering the direction of the instrument you can explore the whole of the inner surface of the bladder as you can the female bladder with the Kelly cystoscope. If you have the skill to bring it into view you can see the opening of the ureter in the male as plainly as you can in the female, and as you withdraw the instrument you can get a complete and satisfactory view of the whole posterior urethra.



A—Otis urethroscope.
B—Conical ovoid obturator.
C—Otis urethroscope lengthened
D—Obturator modified to facilitate entrance into membranous urethra and passage over the prostate.

Dr. Campbell, Chicago—I would like to ask Dr. Valentine how he decreases his amperage sufficiently to regulate the heat, as you do with your light, and whether you can increase your amperage without increasing your heat, and how long is the life of a battery?

Dr. Ferd. C. Valentine—It is satisfactory to me to note that Dr. Tuckerman is working along the same general lines that have prompted me to devise a cystoscope for the use of general practitioners as well as specialists. In principle, however, Dr. Tuckerman's instrument, which he had the amiability to present, is a modification of the one devised by my honored friend. Howard A. Kelly, who, by extending his tube hitherto used for the female, has made a male cystoscope of it. To my mind the curved form of Dr. Tuckerman's obturator is a great advance in the right direction. These instruments, however, all use reflected light. The cystoscope which I devised uses a direct light within its beak. In this it does not differ essentially from the Leiter, Nitze, Caspar, Albarrán or other cystoscopes. But by the special manner in which the fenestrum is cut, it gives a larger view of the bladder. Furthermore, 100 experiments have shown me that the bladder can be dilated with air, without harm befalling the patient. I will not occupy your time by presenting the anatomic reasons for this immunity in detail. Guyon explains it, to my mind correctly, by slanting entrance of the ureters into the bladder, which closes them the more tightly, the more the bladder is distended. Bransford Lewis has proven it in his reports of Bottini operations done with air dilatation. My literary researches show me that I am the first to utilize air-dilatation of the bladder for cystoscopy. My cystoscope, which it would be premature to more than roughly outline here, and which I will take pleasure in showing to those who will call at my rooms to see it, requires no preparation of the patient for its use, requires no bladder washings with a catheter, as do all others, dilates the bladder with air, and combines all the features of an examining, irrigating and operating cystoscope, as well as a cystoscope for ureteral catheterization.

The question asked regarding the amperage of the little battery for my urethroscope and my cystoscope must be referred to electro-technicians. The set of four dry cells, I had the pleasure of showing you, has, as the manufacturers say, a life of eighty-five hours. They guarantee thirty working hours. I have used one set of four cells for 400 urethroscopies. The little rheostat consists of twelve buttons. When the ninth is required for a clear light, I send to Rochester for a new set of four cells, and in less than five minutes, when the old cells are exhausted, they can be replaced with the new ones.

Those of you who have favored me by attending the demonstration of my urethroscope at Starling Medical College, will, I think sustain my claims for its bright light, its easy manipulation, both as an examining and operating instrument. I did not contemplate publicly mentioning my cystoscope now; but as Dr. Tuckerman kindly showed his instrument, he gave me opportunity to here publicly assert my priority in using forcible air dilatation for exploring the bladder, intravesical operations, removal of foreign bodies, growths, etc., under the guidance of sight.

REPORT ON THE SCHLEICH SOLUTION*.

BY ROBERT MARSENA STONE, A.M., M.D.
Anesthetist of the Presbyterian Hospital; Lecturer on Anesthesia to the Omaha Dental College.
OMAHA, NEB.

Lawson Tait, the great Birmingham surgeon and acute controversialist, has been very quiet of late years and has not stirred up the American brethren as of yore, but he wrote a few words, shortly before his recent death, which did not need his name appended to identify them. He expressed his amusement at an article by a layman in the *Nineteenth Century*, recommending that "each one should refuse to take chloroform or ether without a guarantee that it should be administered on an open cloth and the time used to put them under should not be less than eight minutes." The layman charges the most inexcusable indifference to the patient's comfort by the anesthetist, usually the youngest man on the staff, a fresh graduate, with theoretic training only.

Tait then says: "The whole thing is discreditable to our profession and absolutely subversive of any claim it may make as a science. For here we have the greatest drug, chloroform, an ideal anesthetic, and we are not agreed about its administration, its power, its fatality; in fact, after fifty years of its use, we are only agreed that it is an anesthetic."

If Tait be right, then it is high time that we began to study. Our dearly beloved, plain-spoken, quaint old friend, Joseph Price, did a neat little operation last year at Denver. By way of introduction, he gave this homely definition of an anesthetic, which is the best one I ever heard. He said: "An anesthetic is an agent by which the patient is carried to the edge of death and held there while the surgeon does his work." The beauty of this definition is its truth. All general anesthetics do carry the patient to the edge of death; one topples them over the edge too often before the surgeon has a chance to do his work; another too often kills them later, after the operation is all over and the excitement has subsided; hence it does not make such an impression on us as it would had it occurred in connection with the operation. Let us keep this definition before us "lest we forget."

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Cathell of Baltimore was a very wise man, and his book, "The Physician Himself," has been of great value to young physicians, but his advice to young doctors not to allow themselves to be called to do the minor work of giving an anesthetic is wrong. Years ago I discovered that anesthesia-giving is an art as well as a science, and one difficult to acquire. Long since I reached the conclusion that he who gave an anesthetic successfully, not only allowed the surgeon to do his best work unimpeded, but also belittled himself not at all when he conscientiously devoted his whole attention to his work, seeing nothing of the operation, realizing that the patient's life was in his hands, that he must carry him close to the edge of death and firmly and evenly hold him there, alert to every slight change in the conditions, quick of action, undismayed, yet conscious that, if death came to the patient on the table, the responsibility was on his shoulders. During a surgical operation, the anesthetist bears the highest responsibility, that of securing safety from immediate death. A distinguished medical friend recently said in the course of a discussion of this question: "Were I to have the need of a serious surgical operation tomorrow, I should pay much more attention to the question of who should give me the anesthetic than to the question of who should do the operation." The greatest among us does *not* lower his dignity when he places the patient on the confines of death, safely holds him there, dead to pain and consciousness, while the surgeon wields his knife, and then restores him to life.

A part of my plea herein is for the honorableness and high character and qualifications of the anesthetist, too long belittled and too little considered. Which one of us would lie down and allow a beardless, junior student to give him chloroform? Were I a surgeon I should rather operate on a patient under chloroform anesthesia than any other, just as I should rather demonstrate an operation on a cadaver than on an anesthetized patient. Chloroform, properly administered, comes nearer producing cadaveric quietude than any anesthetic. The danger of its producing genuine cadavers is inseparable from its constitution. The question of the highest degree of safety to the patient, sometimes a little lost sight of, is the one of paramount consideration. When one reads the statistics of Goult, made after an investigation of anesthetics by the German Surgical Society of Berlin, and they have not been challenged, he might with propriety think that the German surgeons need, at least a new anesthetic. They are, in part: chloroform, 2286 cases, 88 deaths—1 in 26 cases; ether, 6020 cases, 7 deaths—1 in 860 cases. Luckett of Mt. Sinai Hospital, whose record of ten years, 1863 cases of chloroform with but 1 death, and 4673 cases of ether with no death, does not rap them too hard when he says: "Such figures only prove a shamefully reckless disregard of legitimate precautions."

For fifty years the profession had accepted chloroform and ether and had used them empirically, content to know that we had agents of God-given power to suspend consciousness and sensation. After long years we had learned that chloroform is best given by the drop-by-drop method; that a more copious use of ether was possible if choking was avoided.

Schleich was not satisfied with the limited knowledge we had as to the "whys and wherefores." With infinite German patience he investigated and boldly announced that each killed by paralysis of vital function, usually due to overdose; that, the farther the boiling point of an anesthetic is below the human temperature, the less can be introduced into the body by inhalation; that, when the boiling point is about 98.5 degrees, the lungs can regulate the elimination so that about as much is exhaled as has been inhaled and anesthesia is slow and difficult that, when the boiling point is 149 degrees, as is chloroform, more is inhaled than is exhaled, anesthesia is rapid, the excess is accumulated in the blood and a fata result is reached from overaccumulation. When this danger is escaped, there remains, after the operation a large accumulation which prolongs narocosis and must later be eliminated at a large cost to the lungs and kidneys. Ether furnished a different danger; when it was crowded, expansion took place, the pulmonary alveol were distended, causing a large flow of mucous which embarrassed respiration, producing severe cyanosis and death. In an effort to secure greater safety, we had added alcohol to chloroform and ether for its supposed tonic effect and made the old A. C. E. mixture. It was safer, but we did not know why until Schleich taught us that it was by reason of the fact that the boiling point of the A. C. E. mixture was 40 degrees below that of chloroform.

Schleich therefore suggested various formulæ containing chloroform, ether and benzin in different proportions. His No. 3 formula was composed of chloroform 30 c.c., ether, 80 c.c., benzin, 15 c.c. This was adapted to major operations and had a boiling point of 107.4 degrees. Several objections have been raised against this solution, among them that benzin is a poison, not an anesthetic; that the formula is a mixture and not a solution. Whether benzin is the best diluent or whether ethyl chlorid or some other agent proves to be the better to Schleich still belongs the credit of inaugurating a new era in anesthesia. He alone has shown us why anesthetics kill, and told us how to minimize the dangers He furnished us with a solution, entirely competent to produce surgical anesthesia, with the brain-centers far less profoundly involved, and therefore of far greater safety. In profound chloroform narcosis one never sees the pupils respond to light; they are contracted and immobile. On the other hand, during perfect anesthesia with the Schleich solution, it is not uncommon to see efforts at swallowing and free motion of the pupil when the eye is uncovered.

METHODS OF ADMINISTRATION.

Sad experience has taught us that chloroform vapo must be given with a copious dilution of air. Notwithstanding numerous efforts to secure perfect automati dilution by improved inhalers, the Esmarch mask ha given the best results, especially if the drop-by-dro method is employed.

Since ether rarely kills when pushed fairly rapidl the choking method easily came into use. This absolutely ignores the comfort of the patient, is quite likel to make him an enemy for life, and is by no means fre from grave danger, for, under these conditions, ethe kills just as chloroform does, by paralysis of all vit function. The best anesthetists begin it slowly, adm some air for dilution, and avoid, as far as possible, the ate dangers.

The early teaching of Schleich's disciples in America was that the mask should be covered with oiled silk. I tried it but found it very unsatisfactory. I then covered the mask with tea-lead. I soon found that I could apparently exclude nearly all the air and get anesthesia without cyanosis. Still unsatisfied, I stumbled on the idea of a metal mask, the shape of one-half of an egg cut the long way, with a pneumatic tire to secure perfect contact with the face. Japanese bibulous paper, twelve thicknesses, proved to be the best lining for the mask. I made the opening for the entrance of air and the reception of the solution seven-eighths of an inch in diameter. The Overholt dropper allows me to keep the paper moist or soaked with the minimal amount of the solution. Experience now showed the absence of cough, mucus and excitement, though the solution was two-thirds ether. The absence of cyanosis proved the entrance of an abundance of air. The ability of the surgeon to operate uninterruptedly showed the efficiency of the anesthesia.

Through the courtesy of Dr. C. C. Allison, surgeon in chief of the Presbyterian Hospital in Omaha, I have had the opportunity to give the Schleich solution about 200 times. During the summer of 1898 I was also invited to exhibit the solution in Chicago, in Mercy Hospital, the Policlinic, Cook County and Presbyterian hospitals and in the Chicago Dental College. It was given in the service of Drs. Freeman, Burton, Stehman, Hamilton, Brophy, Murphy and Etheridge. Dr. Etheridge was greatly pleased with its use and adopted it in his work. Dr. J. B. Murphy was kind enough to invite me to deliver a clinical lecture on it, and to say that it seemed to be an ideal anesthetic in the few cases in which he had seen me use it. I have now used it in 250 cases all told. The longer I use it the better I am satisfied with it and with its superiority.

Safety is the first thing to be considered in anesthesia. Speed which does not cause discomfort or endanger safety is desirable. I have been amazed at the rapidity with which corneal and surgical anesthesia can be secured without choking or excitement. I have had corneal anesthesia in 3 cases in one minute, in 7 cases in two minutes, and in 24 cases in 3 minutes. In 50 consecutive cases corneal anesthesia was obtained in an average of 4.2 minutes, with surgical anesthesia in 3.8 minutes more, so that the patient was ready for the knife in eight minutes on the average. One group of cases was unique. Dr. Brophy invited me to hold a clinic at the Chicago Dental College. Three patients were selected, 2 lads of 8 and 11 and a woman of 26; the lads had one tooth each to be extracted, the woman three. I gave the Schleich to surgical anesthesia to each; I awaited complete recovery to consciousness of the first before I gave it to the second, and of the second before I gave it to the third. From the beginning of the anesthesia of the first until complete recovery of the third was but twenty-four minutes. I have since given it repeatedly for the extraction of as many as sixteen teeth, with anesthesia perfect until all were extracted.

QUANTITY OF ANESTHETIC USED.

It goes without saying that, with surgical anesthesia perfect for the surgeon's work, the less anesthetic used the better for the patient. The construction of my mask ensures economy of anesthetic. It is not at all uncommon, in ether anesthesia for a prolonged operation, to see 10 or 15 ounces used. The extraordinary minimal amount used with the Stone mask will be best appreciated by a few figures. I have used, in 250 cases, 5 ounces 3 times, for operations of 87, 125 and 127 minutes; 5¼ ounces, once, the operation being 125 minutes long, and 7 ounces once, the operation being a hysterectomy of 120 minutes duration. These 5 cases were all that used 5 ounces or more. On the other hand, it has astonished me to see how little would suffice for surgical anesthesia and the completion of the operation; 2 drams have sufficed for 2 operations of seven and eight minutes duration; 1 dram answered in a case of hernia in a baby of four months, the operation lasting 28 minutes. Fifty consecutive cases, requiring thirty-four hours of anesthesia, consumed but 93 ounces of the Schleich solution, being an average of 2 5/7 ounces for each hour of anesthesia. One of the 50 cases required 138 minutes and but 4 ounces of the solution; 10 of these cases were of sixty-six or more minutes total anesthesia. The ten consumed just 900 minutes; only 34 ounces of the solution were used, an average of 3 2/5 ounces for each ninety minutes, or 2¼ ounces for each hour of anesthesia. It must be borne in mind that, of this 2¼ ounces, for the sixty minutes' work, only .5 ounce plus 30 drops, was chloroform. The druggist of the Presbyterian Hospital in Chicago took a very commercial view of the matter when he saw how little I was using, and was very anxious, merely on the score of economy, to have the solution adopted.

CHARACTER OF EXPERIENCE.

The question might with propriety be asked me: "Have you had a sufficient range of cases in the limited experience of 250 cases to pass an intelligent judgment on the adaptability of the Schleich solution to general surgery?" The lymphatic habit is well known to furnish the most unfavorable conditions for chloroform anesthesia at least, for eighteen deaths out of fifty-four cases have been recorded. I have given it repeatedly for adenoids, securing surgical anesthesia in one, two and three minutes, when the mask has been removed and the operator has had an abundance of time to clear out the adenoids. In no one have I had the least trouble. With careful examination of the urine, albumin has not been found in cases not having it prior to the anesthesia; in cases showing albumin prior, its quantity has not been increased. I gave it without incident in a case showing a marked mitral lesion, much albumin and a gallon of pus in an abscess of the liver. I have given it in a case of large abscess of the lung, the patient almost moribund; in empyema; for a Kraske operation; in appendectomies and numerous Bassini operations; in simultaneous trachelorrhaphy, perineorrhaphy and hysterorrhaphy; in hysterectomies; in various tubal and ovarian operations; in trephining for tubercular meningitis, the patient almost moribund; operation by Dr. Allison; and, by the way, this was probably the first time this operation was ever done, and the patient is on the high road to recovery; in a double castration and a Bassini on a man of over 80; in chronic bronchitis and for gastroenterostomy.

"But with what results?" one might also ask. No one has died. The utmost comfort and safety of the patients have been secured. The surgeon has been pleased. Slight excitement only was seen but three times in my last 50 cases; the solution was taken quietly and placidly; slight cough was present 4 times; mucus but once; slight nausea was seen 7 times—surgical anesthesia through the whole of the operations was continued and even; vomiting after the operation was seen in 9 cases but in no one was it severe or prolonged; subsequent nausea and vomiting have given so little trouble that I have ceased to have the odor of cider vinegar inhaled after the operation; slight cyanosis was seen momentarily in 5 cases and to a serious extent in 1; this patient had serious mitral lesion, discovered beforehand, and yet, lowering of the head and 1-20 gr. of strychnia hypodermically, corrected it in a moment. In the 250 cases, cyanosis has been observed but 13 times and, in a severe degree, in but 2 of the 13. No more than a minute was spent in correcting it in these 2; the others merely required cessation of the anesthetic for a moment.

One condition has been observed which has not pleased me, rigidity of the body in early anesthesia, sometimes persisting beyond surgical anesthesia. I am inclined to attribute it to the benzin. I have not seen mention of it in the experience of others. Particular attention must be called to the function of respiration. It is one of the most delightful features of the use of the Schleich solution in my hands, that respiration is practically normal throughout the whole period. It is equally worthy of remark that 37 of my last 50 cases were absolutely ideal in their anesthesia.

The ideal anesthetic would be one which could be administered quietly, without causing cough, strangling, nausea, vomiting or the formation of mucus; one with whose use the patient would lie down as a child going to sleep, quickly and quietly dropping to sleep, then on to narcosis, with respiration not materially weakened in force; one with which surgical anesthesia could be evenly maintained for an indefinite period; one with which recovery would be prompt without depression, nausea or vomiting, elimination soon complete; one whose use would not be followed by any serious results.

As long as Price's definition is true, we can not attain to our ideal of safety; it *must* carry the patient to the edge of death; but, in anesthesia, as in mountain driving, it is well to keep as far as possible from the edge of the precipice.

Dr. Rodman of Mt. Siani Hospital, New York City, has furnished a report of 700 cases in which the Schleich was used. This is the largest number I can find reported by one observer, and deserves careful study. He states that his observations are most decidedly unfavorable and that he is abandoning its use. A summary of his conclusions is as follows:

"1. The consensus of patients is that it is not unpleasant and they much prefer it to ether, but prefer chloroform to Schleich.

2. The length of time required for Schleich is fifteen to twenty-five minutes, rarely less and occasionally more; ether requiring about the same and chloroform from five to fifteen minutes.

3. The mask is a serious disadvantage, requiring thorough saturation at the beginning and the fluid often trickles down on the patient's face, causing severe burns.

4. The stage of excitement is less marked than with ether and chloroform although occasionally pronounced. General relaxation is present in greater degree than with ether.

5. Irritation of mucous membranes is diminished with Schleich.

6. The reflexes are lost early, especially in the conjunctivæ, depriving the anesthetist of his most important safeguards. The pulse remains slow throughout and the patient assumes a generally cyanotic condition, respiration usually diminishing and the pupils being dilated. At this stage cyanosis increases, respirations become infrequent and shallow, the pulse loses quality, and breathing stops without warning; the face becomes markedly congested, reflexes absolutely absent, hands and feet blue and cold, pulse slow, feeble and intermittent. Artificial respiration was always resorted to and cardiac stimulants were necessary with other energetic measures.

7. Direct after-effects, as nausea and vomiting, are present to almost the same degree as with ether and chloroform.

8. The period of awakening is not shortened.

9. Several patients developed bronchitis and pneumonia, fatal in one case; also conjunctivitis and rhinitis; also albumin and casts appeared in cases with urine negative prior.

10. Its only advantage is its pleasant inhalation though often disagreeable to anesthetist and bystanders

He concludes that: "It is certainly less free from danger than ether or even chloroform." Evidently a "not" was omitted and he wrote that "It was certainly *not* less free from danger than ether or chloroform.' I do not wonder that he abandoned its use. The only wonder to me is that he did not abandon it long before he did. I shall take up his criticisms one by one:

1. Those of his patients who had taken ether prior preferred the Schleich; those who had taken chloroform prior, preferred it to Schleich. All of my patients, who had taken either, preferred the Schleich.

2. As to the length of time to secure anesthesia, he reports his experience with chloroform as requiring five to fifteen minutes, ether and Schleich alike, as requiring fifteen to twenty-five minutes. My experience with Schleich, as detailed above, is anesthesia in an average of eight minutes.

3. His mask requires thorough saturation and causes burns of the face. Saturation of the mask with the anesthetic, especially early, is the very thing to avoid, no matter what anesthetic is used. In doing this, he violated the teaching of every anesthetist of note. It is not only the cause of unnecessary discomfort to the patient but is positively dangerous; the fact that he could not secure anesthesia without this faulty method should have forced him to improve on his mask. This was a vital error and the source of his terrible cyanosis, failure of respiration and all his troubles. The mask allowed too great dilution of the vapor of the Schleich unless he asphyxiated his patients.

The Stone mask is made of metal and concentrates the vapor above the nose and mouth, allows none to escape below by reason of the rubber tire, and secures anesthesia more quickly by a slowly increasing drop-by-drop addition. The bibulous paper could be made to drip by a too rapid pouring on, but it is never necessary and I never burn the face. Neither do I use vaselin The dropper I use is also an Omaha suggestion, coming from our late confrère, Dr. Overholt, long associated with Dr. Gifford. It is a perfect dropper and the best one ever used with chloroform as well as with Schleich I regard its use as almost as essential as the mask.

4. As to a stage of excitement. He reports it present and, at times, pronounced. Saturating his mask early as he did, it must occur. I never have it in pronounced degree, and in a trifling degree only in 3 out of 50 cases This feature has always been a great surprise to those accustomed to ether. The patients go quietly and quickly to sleep.

5. Our experience agrees in that Schleich does no irritate mucous membranes

6. Dr. Rodman's experience with loss of reflexe slow and feeble pulse, general cyanosis, dilated pupil shallow respiration followed by cessation, congested fac blue hands and feet and the necessity of artificial resp

ation and cardiac stimulants amazes me. This is a terble indictment of the anesthesia and shows that Dr. odman must have been a very brave man to have connued his experiments up to 700 cases. Most men ould have been content with ten. I have had practially none of these conditions. Instead of losing the eflexes I have had the usual ones and have added a new ne which I have named the

DROP-JAW REFLEX.

Since the discovery of anesthesia we have known, of ourse, that the lower jaw participates in the general uscular relaxation, but I am the first, I believe, to ll attention to the fact that it is a most valuable reex to be used in determining the profundity of aneshesia.

In Schleich anesthesia with the Stone mask, corneal eflex is lost early, about four minutes; the mask being mall, covers but little of the face; it allows a perfect iew of the forehead, cheeks and ears; enabling one to e all changes of color; as anesthesia deepens, the pupil ontracts to the size of a large pinhead; it is often mole in perfect anesthesia, responding to light when the d is raised; its gradual dilatation always means the ecessity for more solution; the thumb and second finger f the left hand hold the mask tightly to the face; the ird finger thus rests on the point of the lower jaw and lays with it every few seconds; in perfect anesthesia, e jaw is usually perfectly mobile; if anesthesia is lessning, tension appears in the jaw; this tension is a perct reflex, calling for more anesthetic; with more added, nsion again disappears and mobility reappears, hence s value as a perfect sign; in a few cases only, with erfect abdominal relaxation, the jaw has remained ense. In my experience, the pulse has been of good uality except in those cases in which there has been hock from a grave operation as in an abdominal secon. Cyanosis has been rare and slight, serious only nce or twice, never requiring artificial respiration. The unction of respiration has been practically normal in y whole experience. Strychnia has been used a few mes in cases in which the heart was feeble before the peration and the shock of it great.

7. He reports nausea and vomiting as seen almost s often as with chloroform and ether. Slight nausea rior to complete anesthesia in 7 cases and moderate omiting in 9 cases out of 50 after operation is very uch less than would have been seen with either chlorform or ether. Disuse of vinegar for post-operative ausea is good evidence of the absence of nausea.

8. He reports an equally long period of awakening. have had a patient go through a Bassini without a ovement of a muscle, and speak clearly within a minte after the mask was removed, but this was exceptional. he average of those cases in which the time was reorded was a trifle less than ten minutes.

9. He reports conjunctivitis, rhinitis, bronchitis, fatal neumonia and induced albumin. Neither has been en in my work.

10. While Dr. Rodman concludes that pleasant inhaltion is the only advantage of Schleich, I must conlude that his horrible experiences were wholly due to faulty mask and not to the anesthetic. My own experience teaches me that it is a far safer anesthetic than ither ether or chloroform, and I believe it will displace hem.

DISCUSSION.

Dr. Wm. Jepson, Sioux City, Iowa—There is one statement n Dr. Stone's paper which I feel impelled to take exception to, nd that is "that the Schleich solution as an anesthetic is supeior to sulphuric ether or chloroform." My reason for calling into question this statement is the fact that the statistics gathered in Germany, England and Scotland would evidence that the mortality from the administration of chloroform is about 1 in 5600, and from ether 1 in 13,000. If this be approximately true, the number of recorded administrations of the Schleich solution referred to by the author in his paper is not sufficient on which to base data as to the relative safety of this mixture as compared with chloroform and ether.

The matter of producing an absolutely safe anesthetic has been much considered from time to time since the introduction of general anesthesia. The A.C.E. mixture was a product of these efforts; it was "weighed in the balance and found wanting." I fear that the Schleich solution will fare no better as to results. This fear is based on the fact that we have no right to expect that there practically occurs in its administration what is theoretically attributed to this anesthetic, and on which the originator based the claims of superiority. Schleich's theory in elaborating his mixture was to produce an anesthetic which should be possessed of a boiling point approximately that of the human body, so that its elimination through volatilization might rapidly take place after its administration was terminated. Thus, the three mixtures which he recommends are supposed to have boiling points of 38, 40, and 42 C., respectively. This is secured by mixing chloroform, sulphuric ether, and petroleum ether in varying proportions, so that they will have a mean boiling point of 38, 40, or 42 C., as the case may be. As no chemical bonds of union between these ingredients have taken place, how can the boiling point of any of them have become altered? Therefore, these mixtures can not be possessed of fixed boiling points of 38 C., etc., as the case may be, but of variable boiling points (or three boiling points), namely: 34 C. until all the ether is dispelled, then 60 C until all the petroleum ether is vaporized, and then 65 C. or that of the chloroform remaining. If this be true, then the Schleich anesthetic is not possessed of that characteristic on which its efficacy is based, namely, a fixed boiling point, but is a mixture with a variable boiling point, and hence it is probably no better than the A.C.E. or other similar mixtures, and entitled to no greater consideration.

Dr. R. M. Stone—Petroline ether.

Dr. Jepson—The conception that Schleich had was that these being aneshestics had different temperatures of evaporation. As I understand it, he made three different mixtures—with the point a little above this and a little below—the idea being to get the mixture at a given boiling point, that it would be eliminated more readily after the anesthesia passed away. This is not a chemical composition; this is a mixture; it is nothing more or less than a mixture, and I do not think it is entitled to any more consideration than chloroform and ether—more than the A. C. E. mixture.

Dr. J. B. Murphy, Chicago—I would say that I have had Dr. Stone administer the Schleich solution in Chicago for me, and I was immensely pleased with the result—the time was short, the patients were in good condition throughout, and they rallied rapidly. They did not vomit as they do after the ordinary ether anesthesia. Since then I have found it difficult to train the "new internes" and accustom them to it, as their service lasted but a few months. By the time one was thoroughly accustomed to it he had disappeared and a new man had to be trained. We were very much pleased with it in the cases in which it was used. I believe that there is a sufficient amount of chloroform in it to keep the doctor on the alert, and a sufficient amount of ether to aid the anesthesia. I would like to have some means of inhibiting the excessive quantity of ether administered in ordinary ether-anesthesia, something to prevent the drowning of patients with the ether. It seems impossible to train men to use a sufficiently small quantity of the anesthesia, even administered on a simple mask, drop by drop, or by the cone. We have tried the various methods and have found it extremely difficult to keep the anesthetist down to a small quantity, and after seeing Dr. Stone I was impressed with the ease with which the Schleich was administered. I am very much in favor of its administration.

Dr. R. M. Stone, Omaha—I shall not attempt to reply to the criticism of Dr. Jepson. Chemists differ; some claim that it is a true solution, while others with equal force assert that it is only a mixture. It never separates after being prepared; it has different qualities from those possessed by either of its constituents: it seems to me to be a true solution.

It has not yet reached the minds of the profession that Schleich has made a discovery and announced a new principle. He has, and in time the profession will see it. The farther the boiling-point of the anesthetic is from human temperature, the greater amount of anesthetic absorbed by the blood: the greater the danger, not only during surgical anesthesia, from overwhelming the patient, but later, from inability to eliminate the large quantity absorbed. The boiling point of chloroform is 149; Schleich's No. 3 is 104. This solution is capable of causing a surgical anesthesia with much less danger of overwhelming with overdose.

All anesthetists and surgeons agree that the less the amount of anesthetic used, provided you secure good and continuous surgical anesthesia, the better. My report shows that I have used less anesthetic than any other observer, and I attribute my results to the mask.

EXCESSIVE MYOPIA: WHEN MAY WE OPERATE AND WHAT MAY WE EXPECT?*

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Just one decade ago, Fukala called the ophthalmic surgeons of the world from the safe retreat of surgical conservatism, into which they had been so effectually scared thirty years previously by the disastrous experience of Mooren. He presented to the Wiener Medicinische Gesellschaft, two cases of excessive myopia on which he had successfully operated. But Lister had come and dispelled the shadows of sepsis, in which Mooren had probably done his work. Fukala, made brave by the experience of the preceding few years, worked in an entirely different light. The difference between Mooren and Fukala was the difference between sepsis and asepsis, and in no surgical work is the difference, as gauged by practical results, greater than in ophthalmic surgery.

The past ten years have contributed much to the elaboration of our knowledge concerning excessive myopia and its surgical treatment. Extravagant claims by enthusiasts and the lay press on the one side and theoretic objections to a rational consideration of the subject on the other threatened, early in the decade, to bring it into disrepute; out of all the discussion, however, have come tolerably clear indications for its performance, yet with sufficiently liberal margins in each individual case to stimulate interest and permit some speculation as to final results.

The following short history of a case here interposed may not be uninteresting. The deductions and conclusions at which the writer later arrives are not based on the study and observation of this one case, but on a number observed by him in the clinic of v. Hippel, at Halle, Germany.

Miss F. H., of Findlay, Ohio, a school teacher, 35 years old, consulted me in May, 1898. She had worn glasses about fifteen years, but had never had her eyes examined by an oculist of any repute. She consulted me in the hope of getting relief from tormenting asthenopia, rather than of securing useful vision of the right eye. She thought this eye was practically blind, but said she could remember when vision was good and that it had very gradually diminished. V. R. E., = 1/120 or less; with — 16 D. sph. lens, V = 6/21; no astigmatism; divergence of eye, 24°. The vertical deviation downward measured 10°. The eye was markedly larger than its fellow, and in conjunction with the other eye caused decidedly unpleasant cosmetic impressions. By effort, and when the left eye was directed far to the left, the divergent right eye could be brought to and a little beyond the median line.

The cornea and lens were clear, the iris normal in all its reactions, but the vitreous showed large black, numerous, floating opacities. The staphyloma posticum was large, and throughout the area of the fundus were isolated white flecks, the remains, I judged, of previous hemorrhages. Skiascopy revealed 15 D. of myopia. I advised removal of the lens. At the same time I candidly told the patient some of the dangers connected with the operation and some threatening such eyes when nothing was done.

In four weeks she returned and entered St. Anthony's Hospital, where, on June 22, under holocain anesthesia, I discised the lens. In the evening of the fourth day the patient complained of some pain. There was circumcorneal injection and tension was plus. On the fifth day she was suffering intensely with pain radiating over the right side of her head. She had slept none and had vomited early in the morning. The globe was injected and of stony hardness. I at once evacuated the anterior chamber of the swollen lenticular masses, and so marked was the immediate relief that the patient went to sleep within a half hour. On the fourteenth day a second evacuation of the lenticular masses relieved some irritation which their presence induced. A second discission on the eighteenth day, and a third and final evacuation of the anterior chamber of the lens, completed the work so far as the myopia was concerned. She at once said she could see better, though no accurate tests were made at this time. Tenotomy of the external and inferior recti muscles was done, and the seventh week after discission she came to my office with vision, without glasses, 0.1; with glasses, 0.3; eye quiet, no pain nor redness and asthenopic symptoms much improved; pupil a little irregular in the upper outer quadrant, showing a small angle where it was adherent to the lens capsule; opacities of vitreous unmodified; pupil clear in the exact center, but a hazy veil obstructing the greater portion of it. I permitted her to go home for ten days, giving her no glasses, but ordering prismatic exercises for the weak interni muscles. Even after tenotomy there was a divergence of some 6°-8″. On her return I ordered + 1.5 sp. ⌒ + 1 cyl. ax. 135 R. E., and thereby secured vision of 6/12. Prismatic exercises were continued, and she went to her home and in October again began her school work, against my most vigorous protest. In December I again saw her. By discarding the cylindrique and giving + 2.5 D. sp., I could obtain vision of 6/9. This she has worn ever since. A letter dated May 30, 1899, informs me that since closing her school she has been free from headaches, though during the term she had occasional attacks.

The question when to operate is often the severe test of the surgeon's ability. Of some six cases of excessive myopia, occuring in my own private practice within the past two years, the above is the only one in which the indications seemed indisputable. For practical purposes the eye was blind, as it was. It had, with its enlargement and divergence, already reached the stage of deformity, which means not a little to a young, unmarried woman. The asthenopia was well-nigh intolerable, and she felt compelled to earn her own livelihood by teaching. There had been hemorrhages, and we might be justified in fearing they would occur again, with what disastrous effect no man might estimate. That it was progressive is proven not alone by her own statement that she had noted the continued diminution in the visual capacity of that eye, but as well by the floating opacities which were of somewhat recent origin. A series of pictures taken since girlhood also prove its progressive character. Complete blindness from retinal detachment, or chorioretinitic changes in the macular region, so apt to occur from he third to the fifth decade of life in myopes, could lmost with certainty be prognosticated, if something ould not be done to stop the progress of the disease. here was but little to lose; there might be much to gain.

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What were the results? She has binocular vision, and ision in the right eye is 6/9 instead of mere perception f light. Her friends now ask her which eye was operted on, so great has been the change in her cosmetic ppearance. Her asthenopia is gone, and only when he taxes her eyes and strength beyond what they should ndure, does she suffer. During the past year there has een no progress in the trouble; there have been no hemrrhages, nor increase in the vitreous opacities, and even he traumatic astigmatism has disappeared.

One decade ago almost any oculist would have said: ever operate for excessive myopia. To-day one hardly ares to take that position. The first ten years have een full of discussion, and rich in experience. Not all uestions have been answered, nor all doubts removed, ut it is difficult to see how this operation can ever again e relegated to the obselete.

Age seems to play no rôle, or at least no very importnt one, either as an etiologic factor in the production f excessive myopia, or as a contraindication to opertive measures therefor. The lens of a highly myopic ye, when discised, appears to behave in very much the ame manner, be the patient 10 years old or 50, as it does ot undergo sclerosis. Ten per cent. of von Hippel's ases were 35 years old, or more, and three of these ere over 60.

Perhaps no part of the discussion has been given reater attention than the degree of myopia requisite to ustify operative measures. Manifestly, that alone can ot be the crucial indication. The comfort of the paient with correcting, or partially correcting, lenses; is capacity for work and self support therewith; the ondition and behavior of the other eye; and, above all, he character of the myopia—whether progressive or tationary—all these considerations must be weighed long with that of degree. But for the time being, disegarding these points, it is interesting to take a large umber of cases and note just what post-operative reraction resulted. I have selected von Hippel's 114 cases, ecause of my personal acquaintance with a number of hem, and because I have a detailed report with permision to use them.

Among Professor v. Hippel's 114 cases:

3 WITH M. 10 D.

Post-operative refraction of all, H. 7D.

6 WITH M. 12 D.

Post-operative refraction of 3, H. 2D.
Post-operative refraction of 2, H. 4D.
Post-operative refraction of 1, H. 5D.

3 WITH M. 13 D.

Post-operative refraction of 1, H. 3D.
Post-operative refraction of 2, H. 5D.

10 WITH M. 14 D.

Post-operative refraction of 1, Ah. 4D.
Post-operative refraction of 1, H. 2D.
Post-operative refraction of 5, H. 3D.
Post-operative refraction of 1, H. 4D.
Post-operative refraction of 2, H. 5D.

13 WITH M. 15 D.

Post-operative refraction of 1, M. 1D.
Post-operative refraction of 1, E.
Post-operative refraction of 2, H. 1D.
Post-operative refraction of 3, H. 2D.
Post-operative refraction of 5, H. 3D.
Post-operative refraction of 1, H. 6 D.

17 WITH M. 16 D.

Post-operative refraction of 1, Ah. 4D.
Post-operative refraction of 4, E.
Post-operative refraction of 3, H. 1D.
Post-operative refraction of 3, H. 2D.
Post-operative refraction of 2, H. 3D.
Post-operative refraction of 2, H. 3D.
Post-operative refraction of 2, H. 4D.
Post-operative refraction of 1, H. 5D.
Post-operative refraction of 1, H. 7D.

4 WITH M. 17 D.

Post-operative refraction of 1, E.
Post-operative refraction of 1, H. 1D.
Post-operative refraction of 1, H. 2D.
Post-operative refraction of 1, H. 3D.

20 WITH M. 18 D.

Post-operative refraction of 1, M. 2D.
Post-operative refraction of 1, M. 1D.
Post-operative refraction of 3, E.
Post-operative refraction of 1, Amh.
Post-operative refraction of 1, Ah.
Post-operative refraction of 7, H. 1D.
Post-operative refraction of 3, H. 2D.
Post-operative refraction of 2, H. 3D.
Post-operative refraction of 1, H. 4D.

17 WITH M. 19 TO 20 D.

Post-operative refraction of 1, M. 3D.
Post-operative refraction of 1, M. 2D.
Post-operative refraction of 2, M. 1D.
Post-operative refraction of 6, E.
Post-operative refraction of 2, Am. 2D.
Post-operative refraction of 4, H. 1D.
Post-operative refraction of 1, H. 3D.

6 WITH M. 21 TO 22 D.

Post-operative refraction of 1, M. 4D.
Post-operative refraction of 1, M. 2D.
Post-operative refraction of 2, M. 1D.
Post-operative refraction of 1, H. 2D.
Post-operative refraction of 1, H. 4D.

3 WITH M. 23 D.

Post-operative refraction of 1, 2 M.
Post-operative refraction of 1, 3 Am.
Post-operative refraction of 1, 3 H.

1 WITH M. 24.

Post-operative refraction of 1, Am. 4.

1 WITH M. 25.

Post-operative refraction of 1, M. 2D.

Ten scattering including those with secondary cataracts and those yet under treatment.

These figures are interesting. They show that it is absolutely impossible to accurately estimate the final refractive condition of any highly myopic eye. Myopia of 10 D. in each case resulted in 7 D. of hyperopia, which is no gain, when one's loss of accommodation is taken into consideration. Emmetropia, the ideal refractive result, was attained in no case under the class with M. 15 D., and in that class only once in fourteen cases. Between 16 and 20 D. of myopia, about 25 per cent. of the cases resulted in emmetropia, though even in this class the range of variation was from myopia of 3 D. to 7 D. of hypermetropia.

A glance at the above grouping of his cases would seem to justify von Hippel's claim, that 12 D. should be the minimum grade operable, and only then when further indicated by functional disabilities or progressive organic changes. For some patients are more comfortable, have greater capacity, and are in less danger with myopia of 15 D. and proper corrective lenses than others with myopia of 10 or 12 D.

A word may be said here regarding the quantitative vision of a highly myopic eye. It is indeed difficult to give a standard gauge by which we may be influenced to operate on an eye, or be deterred therefrom. Most of these eyes are amblyopic—the amblyopia exanopsia —and it is difficult to determine what the perceptive elements are capable of accomplishing under the influence of a well-defined retinal image and plenty of time. In the absence of ophthalmoscopic evidences of organic changes in the fundus, which preclude the possibility of these perceptive elements regaining their function, the writer would consider the question of quantitative vision to be one of somewhat minor importance, and confidently expect good results. His own case is evidence that such improvement in function is probable.

Somewhat closely associated with this feature of highly myopic eyes is the muscular imbalance. Shall we correct this before or after the removal of the lens? Experience proves that considerable imbalance may disappear spontaneously after the lens is removed, evidently due to the natural tendency of the eyes to assume a position of parallelism with each other, when distinct retinal images are formed in each eye. To be sure, the correction of the imbalance before the operation may relieve some of the asthenopic troubles, but can not affect to any appreciable degree the quantitative vision. If, therefore, this may be accomplished after removal of the lens, it seems plausible that the muscles should not be subjected to any radical procedure until after the operation. The degree of divergence will be found less in the aphacic eye, and we should take advantage of the aid which an improved retinal image lends in the correction of this defect. Where the divergence is excessive, the muscular correction may and should be done earlier than where it is small in amount.

Shall we operate in the presence of diseases of the fundus? In my own case there had been subretinal hemorrhages, though of not very recent occurrence. It has not occurred since operating. We know it often does occur in connection with posterior staphyloma. If the operation has any kind of prophylactic influence, which some of us believe, we should expect this influence on subretinal hemorrhage. This should hold also as regards retinal detachment, the one sequel which perhaps more than any other has been feared. Statistics seem to teach that it is less frequent after operation than when nothing is done. Cases are reported where it has occurred after periods of variable duration, but, on the other hand, where it has occurred in the non-operated eye, while its fellow, thus subjected to treatment, has escaped. It is simply a question whether the excessively myopic eye is safer with its lens in place, or with it out. Theories can be spun for each side of the question, and later in the light of added experience, it will be seen how absurd some of our theories have been. Meanwhile, experience is rapidly piling up testimony in the operation's favor, provided it be done under strict asepsis, and safeguarded by adequate indications. Choroiditis appears neither to affect nor to be affected by the operation. While I was in Germany, I saw Professor von Hippel operate in the presence of recent choroiditis. I see by a later report that new patches were discovered in this very case one year later.

As in no operation would one needlessly expose the eye to the dangers of infection, so in this one every effort must be made before operating to eliminate all diseases of the conjunctiva and lachrymal apparatus. When correcting lenses are worn, or even tolerated for short intervals, these highly myopic eyes are very much better than none, and no one is justified in taking unnecessary risks with the greatly reduced function of the eyes of these unfortunate people.

What may we expect after discission of the lens of an excessively myopic eye? If the lenticular wound be not too excessive nor too deep, the lens will swell up gradually and masses will slowly find their way into the anterior chamber. This may be almost filled without occasioning much, if any, disturbance. If the discission needle make a big rent in the anterior capsule, and be deeply thrust into the lens itself, swelling of the same may be rapid, and falling into and filling up the anterior chamber, the lenticular masses either interfere mechanically with filtration, or else accumulate faste than filtration normally takes place. In this event, increase of tension, with all the phenomena of an acut secondary glaucoma, supervenes—pain in the globe, radiating over the same half of the head, injection of ciliar vessels, and even nausea and vomiting, as in my own case Evacuation of these masses is at once indicated, the us of myotics being of no avail. This should be done by th angular lance as used in the operation for iridectomy The incision should be made at the sclerocorneal margin and be 6 to 8 mm. in length. Without withdrawing th lance, pressure should be made on the posterior margi of the wound, thus permitting the aqueous to escape ove the inner surface of the lance, carrying with it the semifluid opaque masses of the lens. This procedure wil oftentimes be effectively aided by wiping away, with small pledget of cotton, the particles of lens matte when they tend to dam up at the wound margin. Th immediate result of this procedure is well-nigh astounding in those cases in which glaucomatous symptom have arisen. Pain and discomfort give way to relief, an sleeplessness and disquietude to rest and composure.

The time elapsing between the first discission and evacuation of lens matter is variable .even in the same individual. It may be a few days or several weeks. Probably one week is a good average. A second and a thir discission may be necessary, as in the case above reported and this as well in the aged patient as in the young A clear pupil is seldom obtained without a secondar operation, as in cataract, though it did occur in my ow case. In favorable cases, the period of treatment wil vary from one to two months, during which time, i the organ remains quiet, the patient need not be confined to bed, except a few days succeeding each operation.

Schweiger's rule is that if you subtract one-half of th myopia from ten, the result will equal the post-operativ refraction. This rule will hold in only about one-hal of the cases. If a margin of 1 D. either way be allowed the rule will hold in fully 66 2-3 per cent. of the cases From what has been previously said, the rule will oftenest apply to that class of cases with myopia of 16 D to 20 D. But whatever the glass necessary to correc the post-operative refraction, it is almost without exception that the quantitative vision thus secured i greater than it was before operating. This is due no alone to the enlarged retinal image and less dispersio of light, but also, and in greater measure perhaps, to th fact that the perceptive elements regain a lost functio —or, as might be more exactly stated, develop a functio heretofore undeveloped. Emmetropia, with vision ranging from 0.3 to 0.6; or hypermetropia, or myopia of D. or 2 D. with V = 1 is not an uncommon result. I von Hippel's 114 cases, seven with V = 1 are reported and in not one of these did the refraction vary mor than 3 D. from normal.

But what is of greatest importance is that man of these people are brought from a state of dependency t one of self-support, from darkness to light; or, as in th case reported, from pain and disfigurement to health an comeliness. Even in those cases where vision is n *markedly* improved, the patients hail with delight th slight improvement which is usually obtained.

For a new building, Mrs. Mary Keely, Spring Ci Pa., has presented $3000 to the Phœnixville (Pa Hospital. She will also furnish and equip the large ward in the hospital in addition, as soon as the buildi is completed.

NTERIC FEVER—ITS INFECTION, PATHOLOGY, AND PRESENT TREATMENT.*

BY FRANKLIN STAPLES, M.D.

WINONA, MINN.

The more important advances made in the different epartments of medicine in modern times appear to have esulted more or less directly from various discoveries nd developments in the science of bacteriology. In this ay not only has the domain of practical medicine and urgery been widely extended, and new fields opened for dvanced work, but in like manner great improvements n the management of disease have resulted from bringng into more intelligent and better use much of the eans acquired in former times.

A brief mention of certain points in the etiology, athology, and treatment of the common infectious disase, enteric (typhoid) fever, as they are now underood, may illustrate. The wide prevalence and great ortality shown in the history of this disease give much nportance to any discovery which promises improveent either in its management or in the means of its revention.

TYPHOID IN THE PAST.

The time in the history of medicine when the disease esignated as typhoid fever was first known is not dermined; an account of its existence in medieval times ppears in medical history. It is known to have preailed in all countries and climates. Nearly fifty years go the late Professor George B. Wood of Philadelphia, ho had given much attention to the study of the disase, and was regarded as first authority in everything rtaining to it, declared that "nothing precisely is nown concerning the cause of enteric fever. The cirumstances of its production are very diversified. It is rtainly often generated in institutions where human eings are crowded together, with insufficient or unholesome food, or a confined and vitiated air." This was mething of an approach toward an account, at least what may be in part the sources of the disease; but a earer advance toward a knowledge of the specific cause as made in later years, when its infectious character me to be better understood; in the light of which nowledge not only could a more definite view of the urce of the disease be had, but more effectual means uld be provided against the infection.

Progress was slow in determining the causes of infecous diseases before the time of the great advances of te years in the department of bacteriology. This adance was the beginning of a new era in medicine, the reat light of which is now unfolding, the practical adantages of which largely appear in the intelligent means ow used in the prevention as well as in the management f disease. It is known that a very common source of e typhoid germ is found in water, used for domestic urposes, whose sources of supply have suffered from ewage pollution; that it may be taken from milk and ther articles of food which have been infected, and hich are capable of for a time supporting the living erm of infection; also from the persons and clothing f attendants who have been careless in their manner of ealing, especially with the excretions of typhoid paents. There are many ways in which the substance of uman excrement containing the disease germ may find s way into the bodies of persons not immune, and cause e infection. The following reports may illustrate.

Milk as a Vehicle.—An epidemic of typhoid occurred in a Connecticut town, in 1895, in which in less than two months there were 406 cases, concerning which the statistics were given as follows: Epistaxis occurred in 117 cases; the characteristic skin eruption in 360; hemorrhages from the bowels in 73, with 12 deaths; acute nephritis occurred in 9 cases, of which 4 were fatal. Perforations of the intestine occurred 7 times, with 6 deaths. Relapses occurred in 26 cases. There were 27 deaths in the 406 cases. Careful investigation concerning the origin of the disease in this epidemic traced it to a single dairy, where the pans in which the milk was first kept were washed with water from a shallow well, which was found to be contaminated by a leaking through the earth from several privy vaults in the vicinity[1].

Oysters Infected.—A number of students of a New England college were taken at one time with enteric fever, and four deaths occurred. A search for the cause led to the discovery that all who had suffered from the disease had eaten raw oysters at a banquet. At the same time it was found that students from another college had been served with oysters from the same source, and had alike suffered from the disease. Further investigation revealed the fact that, although these oysters had grown in the deep waters of Long Island Sound, they had been transplanted and "fattened" in the shallow water of a creek, at a point 300 feet below the outlet of a private sewer coming from a house where there had been two cases of typhoid fever[2]. This example shows the tenacity of life possessed by the specific microbe, in that its vitality is not readily destroyed even by salt water.

Further evidence of the vitality and of what may be the habitat of the typhoid germ has recently appeared[3]. In a locality where several outbreaks of the disease had occurred, examinations and experiments with the soil were made by a physician, the results of which were given as follows: He inoculated soil with typhoid germs, and from time to time took samples for investigation. He found that the typhoid bacilli were able to grow in certain soils, and that they could, under certain conditions, survive from one summer to another; the rains of spring and autumn and the frosts and snow of winter did not kill them. The part of the soil exposed to the sun showed no typhoid bacilli; but by scraping down one-sixteenth inch from the surface, organisms were found to be present. Cultures of the bacilli planted at a depth of eighteen inches grew to the surface, and others inoculated on the surface extended to a depth of three inches. It is possible that this downward growth may have been assisted by mechanical means, as rains and artificial watering. No lateral spread could be ascertained. Vegetation was detrimental to the healthy growth of the organisms.

As bearing on the probability of the source of infection here described, the writer has in mind a visit to a hospital in a city of one of the northern states, which was crowded with typhoid patients, most of whom had been laborers on the city's public works, working in trenches for water-mains and sewers. It is believed that prevalence of the fever, which was great in the city at that time, was due in part, at least, to infected soil. The rocky promontory on which a large portion of the city is built is mostly covered by a clay soil; but the impervious rock with its cup-shaped depressions, beneath the superficial layer of earth, continually held quantities of surface water which caused saturation of the contained soil, in many instances to the surface. The opening of some of these cavities by trenches cut through earth and rock, afforded a certain amount of sanitary drainage, and thereby was a valuable improvement; but it endangered the lives of laborers engaged in the work.

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The public water-supply of this city, at that time, had been from the great lake on the shore of which the town is built. This also received the city sewage, and was credited with the return of a percentage of the same to the city through its public water-works. Thus it was that the water had its first opportunities for the direct infection of its consumers, and, secondly, was able to plant its surplus product in germ-producing culture-pots in the soil.

CONCERNING NOMENCLATURE.

An idea of what has been the history of the progress of medical knowledge of this disease may be had from what has appeared in the names which it has received. It may be said, in a general way, that in many instances the names which have been given to diseases, show not only the extent to which the nature of the particular disease was understood, and a proper estimate and classification made, but indicate something of the general status of medical science at the time of their origin.

Gaspard Laurent Bayle (1778-1816) of Paris, because of his important investigation, was called the "godfather" of typhoid fever; and Chomel (1788-1858), another French professor, devoted his time to the study of the disease to such an extent as to be designated the "Chomel of Typhoid Fever;" but the term "typhoid"—like typhus—was made known by the French physician, Louis, whose work on "Typhoid, Putrid and Adynamic Fever" appeared in Paris about the year 1830. The term typhus, meaning stupor, was given to the fever which became known by that name, because of its apparent phenomena, showing a low or adynamic form of disease. M. Petit, also of Paris, had proposed the name, "entero-mesenteric fever," which looked more directly to a pathology and the location of the organic lesion which usually belongs to the disease. After Petit and Louis came Bretonneau, another Frenchman, who gave the name, "dothinenteritis," meaning pustule of the intestine. At the same time "follicular enteritis" came into use. Both of these terms had relation to the characteristic lesion usually found in the mucous membrane of the small intestine. It has been called "nervous fever," "continued fever," and "winter fever," for the reasons: 1, that the effects of the disease are manifest in the disturbance of certain functions of different parts of the nervous system; 2, that the want of distinct intermissions in the course of the disease precludes the idea of malarial poisoning as a cause; and, 3, because of its prevalence in the colder as well as in the warmer climates. The simple term "enteric fever," which is the name now generally preferred, was principally advocated by the late Professor Wood of Philadelphia, whose explanation concerning his choice of name was as follows: "It is merely intended," he said, "to express the fact that this fever is distinguished from all other idiopathic fevers by the frequency and extent of the intestinal disease. Other fevers are attended occasionally with the disease of the bowels; this almost always, if not essentially."

SYMPTOMS AND COURSE.

Only a brief outline of what appears as the characteristic phenomena of this disease is here necessary. As before intimated, it occurs in all countries and climates. Adults are more liable to the disease than young children, although the latter are not exempt. Its invasion is generally insidious, and its development gradual. Lan guor, headache, increased temperature and accelerate circulation are usually present. In the early stage a alternation of temperature may occur with some regu larity each day. The tongue may be coated at first, an with the further advancement of the disease, may b come dry and glazed, frequently with a brown stripe i the middle. In the further advancement, existing symp toms may become intensified and others may be adde The spleen almost invariably becomes perceptibly en larged, the abdomen becomes distended and tympaniti and small rose-colored spots appear on the surface. The is apt to be a certain degree of deafness, and an irrita ing bronchial cough is present; dark sordes form on th teeth, and a low form of delirium supervenes. Dia rhea is apt to occur, and hemorrhages from the bowe are not infrequent. These symptoms may be studie individually, in connection with the pathologic lesion found in the intestinal canal and in other of the digesti organs, and in the action of the disease on differen parts of the nervous system.

PATHOLOGY.

We may best come to an understanding of the path logic conditions found in the disease, by a brief noti of the history of former management and observatio viewed in the light of present knowledge. Althoug somewhat out of place here, an item of treatment ma be mentioned for reasons which will appear.

A little more than seventy years ago Professor Wo advocated the use of the oil of turpentin in the trea ment of enteric fever; this especially in cases in whic the glazed and striped tongue, and tympanitic abdome perhaps with diarrhea and hemorrhage, indicated i flammation of the intestinal mucous membrane, wit ulceration and danger of perforation of the intestin glands[4]. Other means and medicinal remedies then use in treatment, some of which are still in use, were th following: evacuation of the bowels, to be secured the onset if possible; the use of refrigerant and diap oretic drinks, cold ablutions, small doses of mercur counterirritation and poultices to the abdomen, and su porting measures, with stimulation when required. The remedial means and measures are here mentioned, not giving a complete treatment for the disease, but rath as noticing the part of some of them in the therapeuti of the disease, based on its pathology as now understoo

Concerning the oil of turpentin, as a remedy, Profe sor Wood, in emphasizing his recommendation of i use, says: "I can not too strongly impress upon th profession my convictions of the importance of this me icine. It is to be employed in all cases of the disea when the tongue is dry. It acts in some measure as stimulant, but chiefly, I believe, as an alterative to th ulcerated surfaces in the intestinal mucous membrane Notwithstanding the fact that this recommendation the use of this remedy was made by Dr. Wood ma years ago, it is observed, nevertheless, that it has by means been relegated to the past. It now appears as most valuable germicide in the disease. No less authori than Simon of England, with others, is represented "preferring this to other intestinal antiseptics that ha been suggested[5]." In the light of our present knowled of the part of bacteria in the etiology and pathology many diseases, and of the germicidal action of certa remedies, the term "alterative," formerly much us in therapeutics as a cover for what was not understoo has become quite obsolete. In explanation of the s called alterative action of the oil of turpentin, and oth remedies of this class, in conditions such as exist in t ntestinal canal and elsewhere in cases of enteric fever, re now have a knowledge of the specific action of these gents. In this way the oil of turpentin now comes to he front as a disinfectant and germicide remedy, whose roperties render it especially useful, not alone in the estruction of the typhoid germ, but in aiding the repair f lesions on mucous surfaces, caused by the infection, s in the tissues of various organs. It is readily taken nto the tissues, is found in the urine and other excreions, and is exhaled from the lungs.

Our present knowledge of specific pathogenic germs s disease-causes affords an understanding of much in athology and therapeutics, which before could be known nly in part—this from external appearances and aparent results. The advance of our knowledge of disases, of which the one at hand is an example, has been rom a theoretic basis for the pathology of disease, to the nore satisfactory and substantial foundation in pathoogic anatomy. We have in this case the specific germ nown as the bacillus typhosus. It is in the province of acteriology that most progress has been made in late ears in the knowledge of the etiology and pathology of nteric fever. In the advance made by this means, howver, enteric fever is but one disease among many.

AIDS IN DIAGNOSIS.

As important aids in the diagnosis, we now have what s known as the Widal-Johnson serum test, in which a lrop of the patient's blood is made to show the characeristic reaction—this even when taken at the inception f the disease; and the Ehrlich's diazo reaction test, by hemical treatment of the urine. Of the latter it may e said that, while the specific reaction may be obtained n the urine of typhoid cases, it has also been found in he urine of persons suffering from other diseases, viz., neumonia and pulmonary tuberculosis, acute articular heumatism, certain forms of meningitis, and a few ther acute inflammatory diseases. For this reason this est is valuable principally as an aid to be used in conection with other means of diagnosis. These tests are ased on what appears in the bacteriology of the disease, nd are found to be reliable when properly used.

NOTES ON PRESENT MANAGEMENT.

Prevention.—What is learned concerning the nature nd physical properties of the agent of infection, in this s in other diseases, affords direction as to means of revention. Immunity to the disease, either complete r partial, is natural in the bodies of certain individuals. The proportion of such to the number who are liable to he disease is unknown. Immunity acquired by artifiial means is a quite possible thing in the future; it elongs to the great community depending for existence on what is called serumtherapy, is believed to have worthy parentage and respectable blood relations, but has not yet arrived at maturity; it is at best but an heir pparent.

Unlike any other infectious diseases, a common method of passing the contagion from one person to another in this is by allowing the lodgment of excrementitious matter, loaded with the infection, on persons, clothing, and articles of food, from and on which it finds its way to the alimentary canal. As preventive to this, chief importance is given to securing absolute cleanliness of patient and surroundings, and the careful disinfection and disposal of all excretions.

The advance of knowledge concerning the etiology and the means of prevention of this disease has correspondingly increased the responsibility of physicians and health authorities in the matter of its existence. A distinguished Chicago teacher gives expression to this thought as follows: "With its mode of propagation now so well understood, continued prevalence of the disease is a reflection upon the civilization of the age in which we live;" and he declares that numbers of our profession are not doing all they are able to do in the direction of prevention. He emphasizes the importance of directing preventive means to the destruction of the immediate cause of the disease, and observes: "The usual media of infection are the intestinal discharges. These should be disinfected the moment they leave the body. . . . A 2 per cent. solution of carbolic acid, a 1-5000 solution of corrosive sublimate, or a 1-250 mixture of slacked lime, kills the bacilli of typhoid fever in fifteen to thirty minutes. The dejections of the patient should be received into a bed-pan containing such solution, and be thoroughly mixed with it, and allowed to stand an hour before being finally disposed of. The most watchful attention is to be given also to cleanliness of the patient's person." Further directions are given to the effect that after each evacuation, the parts liable to be soiled are to be bathed with a sublimate solution[6].

Treatment.—Modifications which have properly been made in the treatment of enteric fever are based on the present known pathology of the disease—its part in bacteriology. In the light of present knowledge, it has been greatly simplified. It consists in well-managed drainage from the bowels; in the early stages of the fever suitable evacuants are in place, but caution should be observed in the use of cathartics in the latter progress of the disease. Principal importance is given to the use of such disinfectants as will best and most speedily rid the intestinal canal of the specific disease germ; including such therapeutic agent or agents as, like turpentin, will follow and destroy the microbe in the tissues of organs infected. The oil of turpentin is most acceptable in the form of an emulsion. Small doses of mercury are admissible, and are antiseptic. Carbonate of guaiacol has been mentioned as of first importance. The use of salol has been favorably noticed. Recently an English physician has shown good results from the use of compound tincture of benzoin. This accords with what has been made to appear by the use of other medicines of this class. Beechwood creosote is a good germicide in this affection, as well as in tuberculosis.

Concerning the effect of the cold bath in the treatment of typhoid fever, it is claimed by a French physician, Robin, that with the temperature lowered, a better oxidation takes place in the process of respiration, and that thereby the toxic products of tissue destruction are reduced to harmless, excrementary bodies.

In the matter of the Woodbridge method of treatment, so-called, the fact that in it antiseptic and eliminative means are employed is of more account than are the author's methods of presenting his claims to originality.

A general supporting and sometimes a stimulating treatment is necessary to counteract, if possible, the depressing effect of the toxins of the disease on the vitality of the nervous system. The fact that the disease primarily affects certain important functions of digestion and nutrition renders great care necessary in the dietary for different cases and stages.

Surgical Emergency.—Laparotomy, for the purpose of repairing the lesion of perforation of the intestine has been attended with a degree of success. Statistics of this complication and of the operation for the same were given by Armstrong, an Australian surgeon, in 1897, in substance as follows: Between 1 and 2 per cent. of all cases are given as having suffered from this complication, and above 6 per cent. of the mortality of the disease has been due to this cause. In twenty-three laparotomies in cases of true typhoid, done for closing the perforation, recoveries were had in four cases. Notwithstanding this low percentage of recoveries, the operation has been advocated for the reason that without it there is a certainty of fatal result, but that some hopes are offered by this procedure. The advice is qualified by a proviso, that laparotomy should not be resorted to when the pulse is strong and not too frequent.

In view of the great mortality from perforation, notwithstanding what has been offered by surgical operation, advance is demanded in one of two directions, or in both, viz.: Either our understanding of the disease, its successful treatment, or means of prevention, must be so advanced and so widely and practically known as not often to allow the existence of the advanced stage of the disease in which this complication is liable to occur; or, if cases of perforation must sometimes necessarily come, the surgeon's early presence and the improved technic of his operative measures must be such as to materially reduce the rate of mortality of the past.

It is true of enteric fever, as of most other diseases, that the greater success in management depends largely on a knowledge of when, where, and how to act. The knowledge of conditions, means, and methods now available should guarantee results not reasonably expected in former times; and the assurance now is that the better time promised is already at hand.

BIBLIOGRAPHY.

1. Year-Book of Med. and Surg., 1897; Med. Rec., N. Y., Dec. 7, 1895.
2. Ibid., Dec. 15, 1894.
3. John Robinson: British Med. Jour., Jan. 8, 1898.
4. Wood, George B.: N. A. Med. and Surg. Jour., April, 1826.
5. British Med. Jour., March 21, 1896.
6. Wm. E. Quine: Medical Standard, March, 1899.

THE REVISION OF THE PHARMACOPEIA.*

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It is none too early for the medical profession to begin to discuss the revision of the "U. S. Pharmacopeia," which is to take place next year. While the actual appointment of delegates to the pharmacopeial convention rests with medical and pharmacal colleges, state societies and the three Government medical services, the revision should represent the opinion of the profession at large. This opinion can be expressed only by free discussion in print and in various medical meetings.

Within the last few decades a problem has arisen which successive pharmacopeial conventions have managed to ignore, but which must be faced in the near future. Up to 1860 or 1870, almost all drugs were either standard inorganic chemicals or vegetable substances which could be gathered by anyone with a working knowledge of botany, and which could be prepared for dispensing by very simple means. At present we are departing more and more from the older concept of galenicals, and are forced to adopt drugs requiring an elaborate knowledge of organic chemistry and special appliances for manufacture which can be economically employed only on a large scale. While the older animal drugs are few in number, and with one or two exceptions of little importance, animal extracts and antitoxins have recently increased the relative importance of the animal kingdom in pharmacy and a new departure must here be made by the future pharmacopeial revisers.

In regard to the use of galenicals, especially of the vegetable drugs, many physicians have passed throug the following stages: 1. They have desired to know th effect and dose of any arbitrary preparation, for instanc the tincture. 2. They have wished to have a standar preparation, such as fluid extract. 3. They have aske to know not how much of the crude drug was containe in a given amount of the extract, but how much of th active principle. 4. They have argued: "What is th use of employing the crude drug or a galenical at all Give us the active principle and we will make our ow dilutions." Twenty years ago, the triturate was intr duced for the sake of having a 10 per cent. dilutio of strong drugs. But, in practice, very few physicia have ever thought of the tablet as an officinal prepar tion, and they have ordered the amount of the acti ingredient, without reference to whether the tritura contained ten times as much weight of sugar of mi or some other multiple. The abstract was dropped fro the last edition of the pharmacopeia simply becau those who were anxious for a standardized extract pr ferred the alkaloid itself, and those who did not we content with the old-fashioned extract of no particul strength. In fact, the day of galenical is waning, a we are aiming more and more at the isolation of acti principles. There remain, however, several valuab drugs, like cannabis indica, digitalis and ergot, who active principles have not yet been satisfactorily isolat for practical use. In such instances, and in ma others for convenience or out of deference to the lon established habit, galenicals must be maintained.

Rather for the sake of eliciting discussion than to i press a personal opinion, I will briefly outline wh seems to us an ideal treatment of galenicals by t Pharmacopeia. I do not intend, however, to conv the impression that I consider so radical a change fro present standards feasible, immediately:

1. There should be one—and only one—active liqu and one solid preparation of each drug, adapted for i ternal use.

2. These preparations should be of definite strengt either with reference to the crude drug or the acti principles. As the maintenance of galenicals is jus fied rather because of the existence of drugs whose a tive principles can not be isolated, it would perhaps wiser to standardize with reference to the assayed cru drug in all instances, as by adopting the fluid extra and abstract for all plants used internally.

3. All preparations for external use, including oin ments, plasters, liniments and certain solutions, shou be of safe, maximum strength for application.

4. For ointments, there should be duplicate or tri licate preparations, of the same active content but di fering in base, so as to allow an organic fat and mineral salve to be used at will, as well as, perhaps, absorptive ointment containing wool-fat.

5. The physician should never be compelled to co sult a pharmacopeial list to determine whether su and such a preparation of any particular drug be of cinal. Every galenical should be officinal for eve drug to which it is applicable.

6. Unless required by certain physical and chemic properties, there should be no galenicals or definite si ple substances, whether inorganic or organic, with t possible exception of ointments. Whenever volatili or deliquescence or dangerous caustic properties quire the use of a solution, it should be as concentrat as possible. This would apply to ammonia, hyd chloric acid, formalin, zinc chlorid, etc.

7. A wider range of vehicles should be adopted. Ch

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olate, in particular, should be more extensively used. Syrups and other vehicles should be simply vehicles, of indefinite dosage. Syrups of active drugs should be abolished, palatable combinations being prescribed extemporaneously as required. The confection should be more often employed.

8. Fine distinctions of terminology, such as between aqua and liquor, spiritus and tincture, as well as qualifying adjectives such as ammonia, alcoholicum, etherum, etc., should be dropped. The exact method of preparation of a galenical is of no interest to the prescriber, and details necessary for the guidance of the pharmacist should not be indicated in the nomenclature.

9. The number of galenicals should be greatly reduced. Most vegetable drugs would be represented by a fluid extract and an abstract. Wherever applicable, there would also be officinal, ointments, a liniment, decoction— including infusion,— solution,— including aqua and liquor,—spiritus—for organic substances requiring alcohol, ether or both as a solvent. The terms collodion, mel, oleum, etc., must be retained, but these are not galenicals in the true sense of the word.

10. The nomenclature should be revised so as to accord with the best chemical and botanic knowledge, except for some of the newer chemicals whose names are of inordinate length. While arsenic should be known as arseni oxidum, not acidum arsenosum; potassa should be called potassii hydras—or hydroxidum. Vegetable drugs are now sometimes officinal by the specific, sometimes by the generic, sometimes by a word that is neither the common nor the scientific name. The correct, binominal botanic term should be used in all instances.

11. The Pharmacopeia, in dealing with plants, should choose one of two alternatives: either it should officialize only drugs in common use and of marked value, or it should aim to be a complete list of the activities of plants and should officialize every medicinal plant. Since almost all plants are more or less medicinal, at least to the extent of possessing a bitter or an astringent principle, and since the chemistry and pharmacology of very few plants are known, the latter alternative is at present impossible. Nevertheless, certain general directions should be given for testing, preparing and naming all plants, so that, with the knowledge of the physiologic effect and the dose of a crude drug, it could be prescribed in any desired form, without fear of a variation of the product.

12. Dosage should not be dictated by the Pharmacopeia, though it may be included in the description of a drug as a matter of convenience. As a corollary, it follows that no pill should be officinal except as a pill-mass, the division into doses being left to the discretion of the prescriber.

In turning our attention to the animal kingdom, we find evidence of a still greater problem that confronts the pharmacopeial convention. How shall it deal with the more or less proprietary preparations of all kinds, that have come into growing favor? The problem, though not unknown to former conventions, has not outgrown the stage of purely abstract desirability. It involves the question as to whether the pharmacopeia of the future is to continue to be a fairly complete guide for the physician and the pharmacist, or whether it is to degenerate into a kind of peerage, containing the names of drugs of respectability and good ancestry, but not by any means representing the active personnel of the physician's aids. I do not wish to be understood as advocating the use of proprietary medicines, but I do hold that the function of the Pharmacopeia is to list the drugs that the profession actually uses, not those which it ought to use.

The present pharmacopeial list includes some nine hundred titles but, from the duplication of listing galenicals also, only about 550 crude drugs and chemicals are officinal. It is a matter of interest to know how many of the thousands of available drugs are actually employed. Personal experience may properly be given from the impossibility of securing more general statistics. The writer's practice may be considered fairly representative, for the specialty of digestive diseases involves a wide range of therapeutics. The writer's catalogue of office supplies includes some sixty drugs and chemicals necessary for use in the office, including anesthetics, a few simple antiseptics and dressings left over from general practice and retained for an occasional emergency, reagents and the ingredients of gastric and bowel washes and sprays. Besides these sixty office necessities, about 120 substances are catalogued that are drugs, from the patient's standpoint, including hypodermic tablets, supplies for the pocket-case, a few tablets of favorite drugs for office dispensing, and a rather large variety but very small bulk of comparatively new drugs. No attempt has been made to include the artificial foods, proprietary compounds, etc., with which physicians are so generously supplied. The last 774 prescriptions of the writer included 168 different substances: 121 were strictly officinal; 24 were definite chemicals, such as salacetol and unofficinal salts of officinal alkaloids or officinal metals, e. g., the salicylate of strontium, potassium and bismuth; 6 were unofficinal improvements on officinal drugs; 8 were animal extracts, foods and digestive ferments; 4 were galenical preparations of the unofficinal plants, cola, cactus, piscidia and condurango; 5 were out-and-out proprietary preparations—compounds of malt, peptonizing tubes, spice plaster, and migrainin. That is to say, 42 of the 47 unofficinal substances prescribed are omitted from the Pharmacopeia, not from any ethical grounds—unless in the case of certain new synthetic chemicals—but either because their virtues were not known at the time of the last revision, or because the writer rates them higher than they deserve.

The Pharmacopeia has, thus far, held to its original conception of the pharmacist as going out into the fields at certain seasons and gathering herbs, whose virtues he extracts with such simple apparatus as a stove, a kettle, a percolator, a mortar and pestle. Add to this apparatus a pair of scales, a graduate, a pill-tile, spatula and suppository mold, and the equipment is practically complete so far as the requirements of the officinal guide are concerned. It is no fault of the Pharmacopeia, neither is it a misfortune, that the science of pharmacy has as far outgrown the back room of the drug store as the shoe trade has outgrown the cobbler's bench. If the Pharmacopeia does not recognize the modern growth of wholesale pharmacy and pharmaceutic chemistry, neither the medical nor the pharmacal profession can afford to give serious recognition to the Pharmacopeia. While, in many instances, the shadow of commercialism and of extortion has hung over the newer remedies, we do not believe that practical advance in medicine need carry us far from the beaten track of ethical pharmacy. By far the largest and the most objectionable class of proprietary medicines, whether those that are openly advertised to the laity or those that tempt the physician to forget how to prescribe and to be the agent of a wholesale drug house, would be excluded by following the simple common-sense rule that polypharmacy should not receive official recognition. Possibly an exception should be made in favor of a few old favorites, such as the compound cathartic pill, the Dover's powder, the Brown mixture of ammonium chlorid, etc.

Every definite, simple substance, whether inorganic or organic, which has been shown to be of service as a drug or as an office accessory, should be officinal. If our present patent and trade-mark laws cause a conflict with ethics, the Pharmacopeia should, nevertheless, recognize the drug, and the professions of medicine and pharmacy should then unite to secure a modification of the objectionable laws. In the fight against disease and death, no physician can hesitate to see whether his weapons are labeled "ethical," but must seize that which will be the best protection. If we remember rightly, it has been legally decided that neither the scientific nor the common name of an article can be reserved as a trade-mark. The monopoly of a preparation can be secured in one of two ways, either by patenting a method of preparation, which must be fully described and shown to be distinctly novel, or by the use of a trade-mark and keeping the method of preparation secret. The general processes of a science can not be patented, so that the preparation of a drug is open to anyone who can devise a new method, while a secret nostrum, covered by a trade-mark, is at the mercy of an expert analyst. As a matter of fact, almost all the monopolies of the latter class are compounds of no originality and little value.

The Pharmacopeia should adopt as its standard of strength and quality, the highest attainable, even if the competition of retail pharmacists is thereby excluded and the manufacturer is confined to wholesalers with elaborate and expensive equipments. The petrolata, as standardized by the last edition of the Pharmacopeia, are by no means equal to the clear products of several firms. The homeopathic mother tinctures are said to be, in general, far superior to those of the regular profession. Pill coatings of the crudest kind are still officinal. The manipulations of chocolate, gelatin, keratin and salol coatings, are quite unofficinal, nor are the cachets, the gelatin bougies for the urethra, rectum, etc., and many other refinements of pharmacal art, recognized by the authority that ought to stand for the best attainable in pharmacy.

It is still too early to discuss in detail the proper regulation of animal extracts, serums, etc., and the improvements and modifications of opinion which will follow within the next few years would render the wisdom of 1900 crude and imperfect long before the expiration of the next decade. The most that can be expected of the next revision is the formulation of some rules of nomenclature and a general recognition of opotherapy.

At the last revision of the Pharmacopeia, the repudiation of the metric system was greatly feared. At the next revision, there seems to be no probability of the reopening of this issue. So far as the body of the Pharmacopeia is concerned, we believe there is no need of mentioning any unit of measure or weight. As we have already pointed out, the separation of any part of an officinal substance into a pill or other dose, is to be deprecated, hence the Pharmacopeia need only designate the proportional parts in ordering the preparation of galenical. We believe that no one will question the advisability of using convenient percentages, whenever possible, and if a very slight change in relative proportions and active strength is allowed, the percentages may always be stated in convenient numbers. After the pharmacopeial preparations are made, the physician should be free to use his judgment as to whether he will prescribe in grams, grains or pennyweights, or any other unit on which he may agree with his local druggist. Nevertheless, for the country at large, only the metric and the apothecaries' systems can be officialized.

A PLEA FOR THE AGED*.

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One of the saddest commentaries on the medicine of the past can truthfully be said to be the neglect of the aged, as indicated by the scanty literature on the subject and the general apathy existing in the profession relative to the study of the normal changes as well as the diseases peculiar to advanced life. To the profession of France largely belongs the honor of laying the foundation for whatever we possess, fragmentary though it be, of senile pathology.

Prior to the beginning of this century those who wrote on the subject wrote, like Cicero, from a contemplative literary standpoint with the possible exception of the small treatises of Floyer, Welsted and Fisher. It remained for Pinel, in his elaborate treatise on "Clinical Medicine," published in 1815, the result of his vast experience in the Salpetrière Hospital, to furnish the nucleus of our present knowledge of senile pathology. In 1839 Constatt published his treatise on the diseases of old age. In this work we behold the first systematic effort to bring together the scattered fragments of senile pathology. Charcot, in referring to this work, says: "In it, imagination occupies an enormous amount of room at the expense of positive and impartial observation." Cruveilhier, a few years later, from material gathered during his stay in the Salpetrière, shed additional light on the pathology of old age in his "Atlas of Pathological Anatomy."

The works of Rastan and Charcot, both eminent clinicians, having access to the wards of Salpetrière, have contributed much to our knowledge of the diseases of advanced life. To Charcot, especially, are we indebted for a small but valuable treatise. Geist, Day, McLachlan, Cruveilhier, Beau, Humphrey, Fothergill and Loomis are names worthy of mention as able contributors to this much-neglected subject, and be it remembered that "The Twentieth Century Practice of Medicine" was the first of our many excellent works on practice to add *one* chapter on old age and its diseases. The want of interest, as indicated by the scanty and fragmentary character of the literature on the subject, is largely responsible for the apathy existing to-day in our medical schools. The average medical student passes the college curriculum hearing scarcely a reference made to the changes peculiar to age and having little opportunity to become familiar with the maladies prone to overtake the frame as the years speed onward. He scarcely recalls a reference by one of his teachers to old age, unless suggested in mitigation of the failure of some brilliantly planned but misguided operation or equally ill-timed drug treatment.

Surely if the pathology of childhood demands clinical consideration of a special kind such as it now receives in our medical schools, and it be indispensable that it be known from a practical point of view—and this the vriter does not question—then, is it not equally true hat senile pathology with its associated clinical maniestations calls for special consideration at the hands f medical teachers?

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In order to make more clear the necessity for this, et us briefly recall some of the more pronounced changes ue to age. From birth onward the increase of growth, hough undergoing certain variations, gradually diminshes. Commencing at about 40 years of age, the prime f life declines into old age. The metabolic activity of he body, at first sufficient not only to cover the daily vaste, but to add new material, later on is able only to neet the daily wants, and, at last, is too imperfect even o sustain the existing frame. As a result there must ollow certain changes in the tissues of the aged, of an trophic and degenerate character. The atrophic hanges involve, especially, the muscles and glands. The ellular elements gradually diminish in size without pparent modification in their structure. The muscular ibers become smaller and more uniform in size; the pleen and lymphatic glands undergo a marked diminuion in volume and weight, which increases with adancing years.

In the digestive tract the glandular parts and villi re shrunken. In many instances, however, the glanduar elements seem to be those whose powers are longest reserved; and hence the man who, in the prime of life vas a martyr to dyspepsia, by virtue of hypersensitive astric nerves finds in his declining years that his nerves re blunted and his peptic cells are permitted to pursue heir chemical labor undisturbed by extrinsic nerve torms, that he can eat and drink with the courage and omfort of a boy.

The eye in its prime in childhood, when its media re clearest and its muscular mechanism most mobile, iter in life, when it would be of the greatest service o a still active brain, has reached a clouded and rigid ld age.

Senile degenerative changes begin somewhat later han the atrophic. The tissues undergo fatty and calareous changes. These changes are marked in the lood-vessels, especially in the cerebral arterioles, also n the voluntary and involuntary muscular fibers. Calcarous deposits occur especially in the tendons, ligaments nd cartilages. In the central nervous system, the euroglia tends to predominate over the nervous elenents proper—the brain tissue undergoes a chemical hange—the fatty constituents are diminished, while he amount of water and phosphorus is increased. As result, the sensory and motor impulses pass with inreasing slowness to and from the central nervous sysem, and the brain becomes a more and more rigid mass f nervous substance, the molecular lines of which rather nark the history of past actions than serve as indicaions of present potency.

Everywhere we observe a tendency on the part of the iving tissue to fall back on the easier task of forming at rather than to carry on the more difficult task of nanufacturing new material like itself. In no part of he body is this more evident than in the arteries. One f the saddest changes of advancing years, because the nost fatal, is the conversion of the supple, elastic, arteral tubes into rigid atheromatous channels, whereby the upply to the various tissues of nutritive material is endered more and more difficult, and decay hastened.

n consideration of a few general changes outlined as he result of age, it is evident that they must very naterially modify the manifestations of disease in the ged, as well as its therapy.

For the purpose of illustration and contrast, permit me to briefly recall to your minds some of the more important pathologic, clinical and therapeutic distinctions between senile and adult pneumonia. To study intelligently diseases of the respiratory organs in advanced life it is necessary to bear in mind some of the more important anatomic and physiologic changes resulting from age. The thorax loses much of its mobility, due to ossification of the cartilages, and atrophy of the muscles. The tracheal rings harden; the bronchial mucosa and muscularis atrophy. The lung tissue becomes attenuated, less vascular and elastic. The air-cells become dilated, the capillary vessels in part obliterated. In consequence of these changes the breathing of old persons becomes embarassed and labored, thus impeding their locomotion and enforcing sedentary life.

The pathologic changes in senile pneumonia involve the apices by preference in the aged, the base in adults. The inflammatory changes are more often central, and the first and second stages shorter in duration, in the aged, than in adults. The terminal bronchi are invariably involved by the inflammatory process; the pulmonary pleura seldom; the reverse being the rule in adults. The hepatized lung is lighter and more friable in the aged.

Clinically, senile pneumonia differs essentially from the pneumonia of adults. It commences insidiously, and usually runs a latent course; especially is the latter true of intercurrent attacks. The disease is usually initiated by a slight chill, as compared with the sharp chill or rigor of adult age. Old persons seldom complain of pleuritic pain, or dyspnea, the reverse being the rule with adults. The systemic disturbance, as evidenced by pulse, temperature and respiration, is never so pronounced as in the adult. Expectoration is more tardy, difficult, scanty and less colored than in adults. The disease being asthenic in the aged, as a rule, is the reverse in adults. The physical signs are modified by the changes in the aged thorax. The percussion note is often one of exaggerated resonance, which slowly gives way to dulness over the affected area.

The auscultatory signs are less positive in advanced life, crepitation being of brief duration or absent, subcrepitant and mucous râles predominating during the first stage. Bronchial breathing, more intense than in adult life, marks the second stage, accompanied by mucous râles, the latter continuing into the third stage. Surely a disease differing so essentially in its pathologic and clinical aspects from that of adult life must require special treatment.

Let us take a second example, a very common affection of the aged, one of special interest to our surgical brethren—hepatic colic. As practitioners we are all familiar with the formidable aspect of hepatic colic in the adult. How different in the aged—slight pain or weight in the right hypochondrium, slight jaundice, perchance nausea, seldom amounting to emesis, accompanied by slight systemic disturbance make up the clinical picture in the aged.

The preceding brief and imperfect sketch tells us that the progress of age establishes a wide difference in pathologic and clinical phenomena by virtue of its physiologic modifications. The writer believes that the time is long past due when there should be an awakening in our medical schools to the importance of this subject; and an honest effort made to furnish systematic instruction, both didactic and practical: 1, in the normal changes, the result of advanced life; 2, in the diseases peculiar to old age.

It would seem criminal to even suggest the addition of another distinct course to the already overcrowded college curriculum, but I would suggest the following method of expansion:

1. That the chairs of anatomy and physiology impart to the student the necessary primary instruction relative to the normal changes peculiar to old age.

2. That the chair of practice, or if deemed best, in order to contrast disease, the chair of pediatrics, enlarge its scope and furnish the necessary pathologic and clinical instruction so essential to fully equip the student for the responsible duty of intelligently advising and treating the aged.

SPUTUM ANALYSIS AND THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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Seven years ago I called the attention of the profession to the "Neglect of the Early Diagnosis and Treatment of Pulmonary Tuberculosis," in a communication read before the Arapahoe County Medical Association. At that time I used the following words:

"The great importance of the early diagnosis of pulmonary tuberculosis has been forced on my attention by finding so many tuberculous patients seeking the climate of Colorado long after their chances of recovery in that or any other climate have gone by. Considering it a matter largely preventable, by the profession realizing more clearly the causes that lead to this unnecessary and lamentable loss of life, I have analyzed the last 100 cases of pulmonary tuberculosis that have presented themselves for examination. This inquiry has nothing to do with the influence of climate nor the results of treatment, but was undertaken to find out how far the early recognition of the disease and its treatment affected the condition in which the patient first came under my observation.

"After carefully going over the notes of each case, I have made two classes. The first includes those in whom the disease was diagnosed and treated as soon as the symptoms given in the patient's history showed the disease sufficiently developed to be recognized by any ordinarily well-educated practitioner. By treatment, as applied to this class, is meant any means, hygienic, therapeutic or climatic, that was seriously used—not that the treatment was necessarily of the best, but that the cases were taken in hand and the patient advised in a reasonable manner. The broad question of treatment or no treatment of the pulmonary tuberculosis is dealt with, and not its details nor wisdom.

"The second class includes those in whom the history exhibits the fact that the disease was not diagnosed nor treated for a period varying from a few months to several years after the time that the real nature of the malady had clearly revealed itself.

"The 100 cases are not in any way selected, but are taken in the order of their examination, tracing back from the recent time when this inquiry was commenced. and were limited to this number simply on account of time and labor."

I have recently conducted a similar inquiry analyzing my notes of the first examinations of the last 100 cases of pulmonary tuberculosis presenting themselves for examination. I am glad to say that a comparison of the statistics shows an improvement in the latest investigation. In 1892 I found that diagnosis of the disease was delayed in 52 per cent., and the total average of delay was two years. In the present year I find that the delay was 45 per cent., and the average period of delay nine and a half months. In 1892 sputum examinations had been made in only 42 per cent., some of which were not made until some time after the disease was well advanced, so it may be said that in 65 per cent. this means of diagnosis was neglected. In 1899, 55 per cent. were examined, so that my figures show that in the intervening seven years there is an improvement in diagnosis going on; but the conditions are by no means as yet ideal. For, omitting the question of the use of the more delicate methods of early diagnosis, such as can be made only by experts, there are 45 per cent. of cases which should have been diagnosed by an average practitioner and in which the diagnosis was delayed for nearly a year. In the 55 cases in which there was no delay, 36 arrived in Colorado in the first stage, 7 in the second, and 3 in the third stage. That is, there was 65.5 per cent. in the first stage in those in whom there was no delay. In those in whom there was delay 8 arrived in the first stage, 20 in the second, and 17 in the third; thus but 18 per cent. were in the first stage. An analysis of several thousand treated in high climates shows that the average percentage of cures in the first stage is 65 per cent., and in the second and third stages combined only 15 per cent. It therefore means that 37 per cent. of the phthisical patients coming to Colorado are, in consequence of the delay in diagnosis, only given a 15-per-cent. chance of recovery, as against 65.5 per cent. to which they were entitled. In fact, granting the truth of these statements, 37 out of every 100 consumptives are slaughtered. This large, unnecessary destruction of lives is criminal, yet the authors of this are not themselves deliberate criminals, although guilty of criminal neglect. How can we explain this strange negligence? By investigating the causes and by calling attention to the lamentable facts we shall tend to remove this opprobrium from the profession. Often the delay in the treatment of tuberculosis is caused by the patient's own delay in placing himself in the hands of a physician. Such cases are, however, eliminated from this inquiry.

When a patient appears to be declining in health, without obvious cause, his morning and afternoon temperature should be taken, and if this can not conveniently be done by the physician, at those times, the thermometer can be left with the patient or his friends, with the necessary instructions. Again, the weight is not taken often enough or the pulse-rate noted. In many there is little or no cough or expectoration, or it is often denied or ignored by the patient, whereas some sputum can generally be collected and should by all means be examined Blood spitting is frequently passed over as of no importance, and ascribed to the throat or nose when i really comes from the chest. If the patient can be examined at the time of the bleeding usually a few telltale râles are to be heard, and bloody sputum show bacilli then and not at other times. A diagnosis of earl tuberculosis can rarely be made by auscultation throug the clothing. Sweating at night, unless considerabl is often not mentioned by the invalid. Shortness o breath is frequently ignored because the patient does no show it or speak of it when being examined. Both patients and doctors are for the most part too pessimisti in regard to their views of the curability of tuberculosi and are still living, as it were, in the days when a patient was not considered tuberculous until he had becom also phthisical, and that is, until he was obviously wasting away. This gloomy view of the disease often causes the physician to be chary of investigating for fear of declaring this unpleasant fact, when the patient will resent the suggestion of his having tuberculosis. Moreover, the patient often dreads going to a doctor who he believes will give an honest opinion.

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The old myth that pulmonary tuberculosis was almost nvariably hereditary has caused many a well-developed man with a good family history to allow his disease to become incurable because he did not know his danger. Again, patients so commonly prefer to frequently spend a little time and money with their physician and be tinkered up, rather than to submit to a thorough overhauling and perhaps a radical treatment at a greater though less frequent expenditure of time and money. Again, the physician who urges a thorough inquiry is often suspected of making too much of a case for selfish ends, and magnifying his own importance by unnecessarily alarming his patient.

A verdict of tuberculosis is supposed to always mean exile from home to a more favorable climate. While this is most usually the surest and quickest road toward recovery, there are often individual reasons why it is not the best course to pursue. Sometimes even a slight change of air, and for a short period, is sufficient, if the patient is radically treated as regards the hygiene of his home and person. At all events, in the very early stages, where the progress of the disease is slow, this can be tried.

I find that the poverty of the patient has some influence on the delay of diagnosis; in those in whom there was no delay, 16 per cent. were poor; in those in whom there was delay, 26 per cent. were poor. Again, showing the influence of the knowledge of medicine on the patient or his friends; in those in whom there was no delay, 22 per cent. were physicians or relations of physicians; while in those in whom there was delay, there only 9 per cent. were physicians, or of physicians' families.

If ever a suit for malpractice is justified against an educated and honest physician, it certainly is in many of the instances of neglect of the early diagnosis of pulmonary tuberculosis.

Let us remember that under appropriate treatment the large majority of cases of incipient pulmonary tuberculosis get well and remain well if they are instructed in and practice personal hygiene.

CONVULSIONS IN INFANTS AND YOUNG CHILDREN.

THEIR POINT OF ORIGIN, NATURE, CAUSE AND MANAGEMENT.*

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No apology is demanded for discussing here what is only a symptom and not a disease per se; for of the many sudden, violent, and dangerous affections of very early life, I know of none which demand more prompt, careful, and skilful effort of the physician, than convulsions. Their suddenness, gravity, and frequency give to them a peculiar importance; and it is here, in a peculiar manner, that human life often hangs suspended on a prompt impulse of the physician's trained and cool intelligence. For what can be more terrifying to the parents and friends, or more dangerous often to the little patient, than an infant in the agonies of a well-developed eclampsia.

Most authors attempt to treat this intricate subject under four headings, or divisions, as: 1. Points of Origin. 2. Nature. 3. Causes. 4. Treatment or Management. But these divisions can not be discussed entirely separately, for in discussing the point of origin, we are necessarily contemplating, to a great extent, the cause, at least the "proximate cause," and also to a considerable extent, the essential nature of convulsions. Nevertheless, as we must systematize what we have to say on the subject, perhaps we can not do better than to follow these divisions as far as possible.

For purpose of study and treatment, convulsions have been variously classified, as to their points of origin, and exciting causes. The late Prof. J. Lewis Smith discussed them under the headings of "Idiopathic," "Symptomatic," and "Sympathetic," the first class being those purely functional—as from sudden, violent emotions, etc.; the second class, those from brain lesions; the third, those occurring as complications of diseases other than the brain—as pertussis, exanthems, etc. Professor Holt groups them under three headings, as those occurring from direct irritation of the cortex of the brain; those from reflex irritation; those from "toxic" influences. Other divisions, as you know, are into "Central" and "Peripheral," or "Centric" and "Excentric," etc. Professor Rotch has tabulated as to causes in an admirable manner under the two significant headings of "Central" and "Peripheral"—or reflex—and I think all of the *exciting* causes can well be grouped in his classifications.

Morris J. Lewis[1], for the purpose of differential diagnosis, etc., groups convulsions into eight classes, as follows:

1. Convulsions may be evidence of reflex irritation from some temporary and comparatively trivial disorder, such as constipation, overloaded stomach, irritation of teething, earache, worms, genital irritation, etc.
2. They may constitute an initial symptom of one of the exanthemata; or some other acute disease, either thoracic, spinal or cerebral, or they may be due to thermic fever.
3. They may indicate that the child is suffering from some general condition of ill health, such as indigestion, rickets, cyanosis, etc.
4. They may indicate gross intracranial disease of more or less chronic nature.
5. They may be a symptom arising during the course of one of the acute diseases, such as whooping-cough, or may be an evidence of toxemia in the exanthemata or kidney disease.
6. They may be the result of various traumatisms, such as injuries to the head, or a violent hemorrhage; other than cerebral; causing cerebral anemia, or from severe burns or shocks.
7. They may be one of a *series* arising without assignable cause; and constitute epilepsy.
8. They may indicate nothing more than a "A Mode of Dying," especially in those diseases which are accompanied by severe watery diarrhea and vomiting, as cholera infantum, etc.

This comprehensive summary would seem to embrace most of the exciting causes fairly well grouped; and as Lewis remarks, "Two or more of these classes may be found associated in the same case."

Some such grouping, together with the systematic tabulation of the various exciting causes, as Dr. Rotch has given us in his lectures, under the headings of "Central" and "Peripheral," will do much to facilitate the diagnosis and management of these often intricate symptomatic affections.

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I take it for granted that this discussion is understood to exclude the somewhat similar, and often nearly allied, spasmodic neuroses, as puerperal eclampsia, epilepsy, chorea, hysteria, tetany, trismus; and, to some extent, that local spasmodic affection of infants, "laryngospasm." I accordingly confine it for the most part to "an acute affection of infants and young children," arising often without perceptible structural lesions of the nervous systems and characterized by partial or general convulsions, either "tonic" or "clonic," accompanied by more or less complete loss of consciousness. In other words, I limit it, as far as possible, to "idiopathic general convulsions of young children."

Points of Origin.—Many diligent and ingenious investigations as to the *points of origin* and "proximate cause" of convulsions have been made by such distinguished investigators as Kussmaul, Tenner, Brown-Séquard, Nothnagle, Gowers, Dickson, Marshall Hall, J. Hulings Jackson, Allbutt, Jacobi, Hammond, and a host of others, both in this country and abroad; but up to the present, without satisfactory or demonstrable conclusions; or even anything like uniformity in the theories deduced from their painstaking experiments and observations, and this part of our subject seems to be yet *sublite.* I do not therefore believe this is the proper place to go into a discussion in detail, of the various theories deduced from experimentations which have been presented from time to time as to the exact origin, or proximate cause and essential nature of these convulsions; they are too many and various and contradictory to be profitably discussed in a limited paper.

That much is yet to be learned in this direction seems certain. Holt says: "They are motor discharges from the cortex of the brain." Morris J. Lewis says: "Convulsions are in all probability due to an *exaltation* of the *lower* nerve-centers; or more frequently, to a suspension of the inhibitory power of the *higher* cerebral centers"—or both of these conditions may exist at the same time—and further, "It remains to be said that we are still very much in the dark as to the immediate processes producing convulsions."

Taylor and Wells[2] have well said: "Infants have their nervous system in process of rapid development—only the component but undifferentiated parts of which are in great activity, ready to receive and re-energize limitless new impressions." This may be done systematically and wholesomely, or irregularly and excessively, resulting in growth and development or explosively doing harm. At birth, the lower centers only are developed, hence control is limited until the higher centers become competent to exert *inhibition;* hence in the earlier months of life convulsions are common, and less so after two years.

Peterson[3] says: "Convulsions, whether local or general, have their origin in katobolic discharges of nerve cells, either in the cortex, or at the base of the brain." Further, he remarks: "There is no form of eclampsia generated from the ganglion cells in the spinal cord." This remark is made after reviewing and dissenting from J. Hulings Jackson's theory, that there are three levels from which such discharges may occur—as from the cells of the pontobulbar region, from the Rolandic area, and from a level which he (Jackson) conceives to exist in the frontal lobes, and to represent the highest control of sensory-motor functions. However, after quoting these plausible views without further comment, and having nothing new to offer or suggest on this intricate part of our subject, I shall pass at once to the consideration of the various well-known *causes* of convulsions, as the predisposing, exciting and proximate. Of the first and second at least, we have learned considerable.

In discussing the causes of disease, before my class, I am accustomed to employ an illustration, which I heard long years ago in the University of Louisville, Ky., and which has seemed to me to be well chosen—where the different causes generally given as the predisposing, exciting and proximate, or immediate, were compared to making a fire in a stove or grate; in this the combustible material arranged first is the predisposing, the match the exciting, and the union of the oxygen of the air with the carbon of the fuel is the proximate cause of the resultant combustion. I am aware, however, that some object to the designation "Proximate Cause," and I find it much less frequently employed than formerly, as it is really only the ultimate *effect,* rather than a *cause.* Nevertheless, I shall hold the illustration as an apt and proper one to enforce an understanding of the operation of the *causes* of disease.

In considering the predisposing causes, we must note as contributory, age, sex, heredity, temperament, environments, habits, season, diathesis, etc., while the exciting causes, as so well grouped by Rotch and other authors, will include as "Central": 1. Diseases of high temperature. 2. Diseases accompanied by vascular stasis. 3. Diseases characterized by anemia and exhaustion. 4. Various toxic causes. 5. Organic central lesions. 6. Presumably organic disturbances of the brain, as epilepsy, which is excluded from this discussion, and of "Peripheral" (or reflex) causes; rachitis, food, intestinal parasites, dental irritation, foreign bodies (in the ear, nose, etc.), hot baths, burns, etc., mental disturbances (such as fright, etc.) and many others like these; while the "Proximate Causes" must be considered with the points of origin and essential nature of these "Nerve Explosions."

Of all the manifold predisposing causes of convulsions in young children, the most important one is the natural instability of the nervous centers, characteristic of early life, and associated with the non-development of voluntary centers of the cortex; hence it is that age is a most important factor in the etiology of convulsions; and under 2 years is recognized as by far the most susceptible period, for patent reasons already stated. Statistics, indeed, show that over 60 per cent. of deaths from convulsions, up to 20 years, occur in infants under 1 year of age. Convulsions are not only more common in infancy, but much more fatal than later in life, and for reasons that are very apparent. It has been stated by some good observers that males seem to be more susceptible than females; indeed, carefully-gathered statistics seem to justify this conclusion, but it has been suggested by others that inasmuch as more males than females are born each year, the larger number of deaths in males may thus be reconciled, for surely it would be contrary to reasonable expectation, as females are more delicately organized, while the exciting causes are probably about equal. While high atmospheric temperature is a recognized predisposing cause, we also recognize the fact that elevated bodily temperature in infants may be an exciting cause of convulsions, where there is a predisposition to those motor nervous explosions. A temperature, much above 103 F., continuing for several hours, in a highly neurotic child, is ery likely to induce convulsions. I have seen an at- ack of convulsions precipitated in a very neurotic in- ant, from the application of a sharp sinapism, and more han once from a cantharidal vesicant.

I think there is sufficient evidence to justify the onclusion that there often exists in young children, hat has been aptly called "a conclusive tendency," robably hereditary, when the predisposition is so arked that very slight excitation, such as anger or right, or a trivial traumatism, indigestion, coryza, etc., ay precipitate a convulsion; and which, in an infant f naturally a more stable nervous equilibrium, would o no harm. Severe burns or scalds are very likely to roduce convulsions. One of the most persistent cases f eclampsia I have ever seen occurred recently from severe scald involving most of the surface of the runk and abdomen of a girl, 3 years old, who was in lmost constant clonic spasms for twenty-four hours efore death came to her relief.

Convulsions in infants are not uncommon in the in- eption of the graver forms of scarlet fever, and, if fter the evolution of the rash, are almost uniformly tal.

As to what exact rôle dentition plays in the causation f convulsions, good observers are not well agreed; but f the many attacks of eclampsia which I have wit- essed in young children during dentition, I can not emember one case where I could be sure that the ruption of the teeth was more than a predisposing ause of the spasm; and I can affirm the same of the -often accused intestinal worms. These may often e contributory, as one only of several factors, inducing onvulsions, and should not be entirely ignored. Jamie- on correctly remarks: "Dentition as an exciting cause f convulsions in infants, is not to be considered until l other possible factors are eliminated, as more than ouble the number of deaths, from convulsions in chil- ren occur during the first years of life, and according statistics, over two-thirds of these occur during e *first six months;* so that dentition in these cases an not be taken as a cause."

But of all the causative agents in producing convul- ons in young children, undoubtedly the food is the ost common; probably, at least one-half of all con- ulsive attacks in infants and young children can be raced to this cause; either food wholly improper in uality, too much in quantity, or too frequently given. o also, bad hygienic conditions often contribute to this ccident. Hence the necessity of emphasizing the fact at infant feeding and infant hygiene are the most nportant subjects in pediatric teaching.

While infants being fed with commercial foods, cows' ilk, etc., are the most frequently attacked, I have everal times seen the mother's milk precipitate violent onvulsions in a healthy infant, within an hour after ursing, and which ceased when taken off the breast, nly to return speedily when the breast milk was re- umed. Another fruitful source of convulsions is to e found in rachitis and other forms of acute or chronic alnutrition, especially laryngospasms and tetany. So lso toxemia, either from microbic agency or from renal ffections, is a well-recognized source of infantile con- ulsions; and aside from all these factors, and many ore, as causations of eclampsia, we must also recognize he fact that convulsions are often only "A Mode of ying," in young children, when occurring late in acute ffections, and continuing until life is extinct.

In regard to the diagnosis of eclampsia, it is not diffi- ult as a rule, as we have only to differentiate from epilepsy, which the paroxysms so nearly resemble; the main point of differentiation is to remember that epilepsy is rare in infants under 3 years, the period when eclampsia is most frequent; that epilepsy, unlike eclampsia, is not preceded nor followed by symptoms of acute illness, and has a strong tendency to recur at more or less regular intervals and to become a chronic affection, but notwithstanding the paroxysm or motor nervous explosion, it does not differ in appearance from that of eclampsia; indeed, we must recognize the fact that what seems to be at first true eclampsia does occasionally merge into genuine epilepsy. Perhaps the most distinctive feature in epilepsy, when recognizable, is the peculiar "aura," which immediately precedes the "fit," and which is never present in ordinary eclampsia; but this being only a subjective symptom, it is of little value in diagnosis in infants and children under 4 or 5 years old.

As to the essential pathology of these convulsions, which are only symptomatic of so many different proximate causes, very little light can be obtained by postmortem investigations; the "findings" will be as various as the producing causes.

When death occurs from general convulsions, it will be either from venous stasis in the brain—or effusion or hemorrhage on to that organ—or else by exhaustion from the prolonged attack. In laryngospasm, it may occur by apnea, or suffocation.

The treatment of convulsions is naturally divided into two parts: to relieve the paroxysm as soon as possible; and to endeavor to prevent its recurrence, by removing the cause, or rather by treating the systemic condition of which the convulsion has been only a symptom. But as the exciting cause can not always be readily determined in these emergencies, and as relief of the paroxysm is imperative, it is most fortunate that there are several agents and procedures available to quell the disastrous nervous explosion, and applicable to all cases, until we can investigate the exciting cause.

The first thing generally done is to immerse the child in a warm bath, from five to fifteen minutes, at a temperature of about 96 to 100 F.; or if there is high bodily temperature, about 90 F., while cold water or ice is applied to the head and face; at the same time it will be well to examine the gums, if teething, for possible dental irritation, and if found, which will be only seldom, the gums should be lanced. Next, if good reasons exist for suspecting digestive troubles, and there is no great apparent cerebral congestion, an emetic of ipecac with or without alum; or a hypodermic injection of apomorphia, 1-20 to 1-40 gr. will serve as well. My experience leads me to believe that the dangers of emetics in convulsions, in producing or intensifying cerebral trouble, have been greatly exaggerated, and that they are often indicated, not only as local aids, but as antispasmodics, relaxants, and often calmants and antipyretics, as well as sudorifics and revulsives. If, however, it seems probable that the source of irritation is in the alimentary canal, below the stomach, an enema of warm water with common salt will be in order, and, as soon as possible, a cathartic of calomel, ipecac, and bicarbonate of soda may be given, to be followed in four hours by castor-oil and turpentin—or if in haste, a saline. If the child is in a paroxysm when we enter the chamber, besides the remedies already mentioned, and indeed as a first remedy to "break the spasm," chloroform inhalation will be proper.

After these preliminaries, our next best resources are in the administration of the bromids, and sometimes chloral, ether per os or per rectum; they may be given separately or combined, when both are indicated, as they often will be. My preference has generally been for sodium or potassium bromid ʒi, chloral hydrate gr. iii to v, according to age, given in solutions per rectum. In some well-chosen cases, without cerebral congestion, and when there is great pain, a prompt hypodermic injection of morphia and atropia will yield good results in calming the nervous excitation, but demands great discrimination in its employment, especially in very young infants.

In what Smith and some others call "sympathetic" convulsions, i. e., those occurring from some acute disease, outside the cerebrum or central nervous system, opium in some form is often very useful in quieting the nervous excitement. Happily such heroic measures as venesection, blisters, and severe counterirritation to the surface of the body of infants to "break spasms" have long since become obsolete; nevertheless we occasionally see cases of convulsions where venesection might serve us as well, and it is a question with some of us older physicians, whether the pendulum in venesection in children has not swung too far in the opposite direction. If there is high temperature, antipyretics and cool sponging, or the "pack" are always indicated. However, after the paroxysms have been controlled, the remedies should be addressed to the removal and prevention of the exciting cause, and later also to the predisposing conditions, as far as possible. This means especial attention to details of diet, hygiene, etc., which so often contribute largely, if not wholly, to the production of these convulsions. The bromids should generally be continued for some time after the paroxysms cease, in order to prevent their recurrence, as well as to remedy the results often left on the nervous centers. It is well known that one convulsion predisposes to another, and sometimes a series ending in epilepsy, which so closely resembles eclampsia in its clinical symptoms and objective features.

If the convulsions are found to be what some of our authors denominate "symptomatic," though always "symptomatic"—but especially of brain lesions—or "sympathetic" of affections other than cerebral disorders, the management will be properly addressed to those pathologic systemic affections, the discussion of which can not come within the limited scope of this paper; and although admitted that laryngospasms of infants are so closely connected with general spasms, I have not deemed it wise to attempt their discussion in this paper.

If it be a fact, and it doubtless is so, that some cases of convulsions require depletion, others repletion, others evacuants only; others antispasmodics and calmants only, while still others demand refrigerants and revulsives, how very much discrimination is demanded in the treatment of an affection, which, be it remembered, is always only a symptom—though often a dangerous one—of so many diverse conditions, either temporary—i. e., functional—or permanent (organic); also what demand for ready, cool and prompt action.

Impressed, as I have been, with these suggestions, it has been my method to emphasize to my class the importance of always having with them when becoming practitioners, something like an emergency outfit for the prompt management of convulsions, during and between paroxysms. The first and most important of this will be clear, cool, and ready intelligence. Then the armamentarium should include chloroform, bromids, chloral, ipecac, apomorphia, a good hypodermic syringe—in good order—with proper tablets of morphia, atropin, hyoscyamin hydrobromate, a good fountain syringe, and a stomach-tube, fever thermometer and catheter, as it may be in the night and some distance from a drug store, when and where the physician is called in these emergencies; hence the necessity of being always ready for prompt action.

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DISCUSSION.

Dr. A. C. Cotton, Chicago—The last sentence of this extremely interesting paper aroused in my recollection a series of observations along a line which has particularly interested me during the past five or six years. A year ago, at the meeting of this Section in Denver, I read a paper on the subject of "Disturbed Lactation, Some Causes and Effects." Among some of the effects I called attention to not infrequent attacks of convulsions, apparently as a result of discontinuance of lactation. During the last year I have concentrated my attention somewhat more closely along this line of observation, and among all the causes assigned in the able paper just read for the production of convulsions, it seems to me that food plays the most important part. Errors in diet, arrest of digestion, imperfect assimilation, with the consequent evolution of ptomains which produce intoxication of the nerve-centers, whether by reflexes from chemical irritation in the alimentary tract, or from pressure of gases in the bowel—all excite the nervous system, and cause convulsions; but I believe that dietetic errors and imperfect digestion are the most frequent exciting causes of convulsive seizures. My attention has been called more particularly to convulsive seizures in infants at the breast. There the supposition is that there is not so much liability to dietetic errors as in artificially fed infants, but some careful observations on that point will satisfy you, I think, that very frequently the quality of the milk secreted in otherwise normal mammary glands is subject to sudden and very positive changes, not only in the grosser aspects, but in its chemical reactions. Mental influences, hygienic influences, climatic, thermic and many other influences will induce a change in the quality of the mother's milk. From the recorded observations it would appear that the most pronounced causes are those which affect the emotions—the psychic influences. In my paper of a year ago I alluded to the effect of poisons on a nursing woman. In at least seventy-two cases, the opportunities for observation were especially favorable, and these received my most careful attention. I reported fifty-one cases one year ago. Since then my attention has been called to a number more. Careful scrutiny, I think, will show that not infrequently undue, unusual, or excessive coitus on the part of the nursing woman will suddenly and remarkably affect the quality of the milk, and produce a marked disturbance in the nursling, which is very commonly manifested by convulsions, and occasionally, even by death.

Dr. Kimball of Indiana—The etiologic factors which enter into these cases are perhaps generally understood by the profession, but how to manage such cases is a problem of much interest, at least to me. Of all the exciting causes, I have found indigestion, or the toxins arising in the alimentary tract the most common. I recall one case in which there was not only the usual convulsion, but the forearms were flexed on the arms and the hands on the forearms, and associated with this was a peculiar distortion of the face. Although the mother said that the child had not eaten anything out of the way, I administered a calomel purge. The next day, on visiting the patient, a child of 4 years, it was looking considerably better. The mother then told me that the child had evacuated nearly a tea-cup of beans. I recall another case in which every time the child ate peanuts it was necessary to call on me. In the treatment of these cases I have derived especial satisfaction from the administration of gelsemium. Its action is, of course, on the cerebrospinal centers. It seems to control the convulsion more quickly than anything else I have used, and it is easily given.

Dr. Cotton—Don't you think the calomel purge is better than the gelsemium?

Dr. Kimball—Yes, but I have often found that while the calomel was acting the gelsemium proved useful by calming the cerebrospinal system.

Dr. Ewing, Salt Lake City, Utah—Aside from the causes which have been enumerated, and especially the overfeeding of children, I find, in male subjects, that a most frequent cause of spasms is an adherent prepuce. I usually examine the prepuce in cases of convulsions, and I have found that by remedying this many cures could be affected. It is my custom to wash out the bowel with about half a gallon of water, and also to give a calomel purge instead of simply treating the fever.

DR. J. A. WORK, Elkhart, Ind.—Every effect has its cause, and hence when convulsions are present we should look for the cause of the pathologic condition. I believe if we are careful we can usually ascertain the cause, and then it is a comparatively easy matter to remove it. I remember, about twenty years ago, treating a very severe case of convulsions in a child about ten months old. The next day we found in the stools a small piece of corn-cob, and the next day a small piece of fish.

DR. FOSTER of Illinois—It seems to me that in the enumeration of these etiologic factors we should go just a little further and try to find out whether there is a stimulation of the nerve-cells of the brain, especially the motor areas, or whether there is a depression of these areas. What is the pathologic process which is taking place in the nerve-cells of the brain? That is what we wish to know. Some physicians give stimulants; others give bromids with chloral. To determine which treatment is proper we should know what is the process to which these nerve-cells are subjected. There is a clonic convulsion present. In the majority of cases, I think, instead of the nerve-cells being stimulated they are depressed, and their normal tone lowered. This indicates the line of treatment to be followed.

DR. E. E. MAYER, Pittsburg, Pa.—This reminds me of Fleschig's theory of the association fibers of the brain, which he claims govern the projection fibers and thus exercise an inhibitory influence on the motor zones. In children these fibers are not developed, and hence the cortical cells in childhood are easily excited. Whether his hypothesis is correct, I can not say, but it is certain that the inhibitory power of a child's brain is much less than that of an adult. Nothnagel's epileptic center in the pons may also aid in the production of convulsions.

One fact must be remembered before everything else. Convulsions are only a symptom. No diagnosis is made by saying a child has convulsions, any more than if you say a child has pain. What causes the convulsions, to what disease is it due? What has excited the cortical irritation?

All the previous speakers have spoken of the convulsions due to reflex causes, to poisons in the blood, to infection etc., but no one has emphasized convulsions due to organic brain disease. Convulsions are often the first symptom of brain disease, and, until other pronounced symptoms are forthcoming, the physician does not think of brain tumor, brain abscess, etc. A convulsion is also often the first sign of a future epilepsy.

Treatment then, can only be successful if the cause is found and the exciting factor removed. To check the convulsion I give chloroform, and then at my leisure search for the cause and treat it. No matter what the cause is, bromids in doses of 2 to 5 grains are advisable to allay cortical irritation.

DR. FOSTER of Illinois—Will not the same stimulation in the nerve-cells of the child produce the same result as in the nerve-cells of the adult brain?

DR. ROSA ENGELMAN—From the very fact that anatomic studies of the brain of the child show lack of development it is easy to account for all forms of convulsions, whether toxic, reflex or what not.

DR. C. G. SLAGLE, Minneapolis, Minn.—This is a large subject, and one which can not be satisfactorily treated in one paper, but I am glad that it has elicited such a full discussion, and I thank you for it. I hope Dr. Cotton will pursue his interesting investigations further. I am sorry that I did not have time to discuss the treatment fully. To check the spasm, the best method is the inhalation of chloroform. It is also useful to give an enema of salt water, both to produce an evacuation of the bowel, and because of its revulsive effect. It is also desirable in many cases to give an emetic, particularly in those cases in which from the history it seems probable that the undigested food has not passed beyond the stomach. I think I get just as good results from enemas of salt water as from enemas containing bromids. The adherent prepuce is certainly a contributory cause, but I doubt if it is an exciting cause. It is true that we must search for the cause, but for the immediate needs we can satisfactorily control the convulsion with chloroform as I have said.

Lanolin in Reduction of Enlarged Glands.

A. C. Frickenhaus *(Monatshefte fur Prakt. Dermatol.)* reports the rapid reduction in size of enlarged glands after inunction with lanolin. The axillary glands were enlarged and painful, following recurring furunculosis of the trunk; and thorough application of lanolin over the enlarged glands was followed by diminution in their size and marked lessening of pain. Similar results were obtained in a case of angina tonsillaris, accompanied by enlargement of the tonsils and pain on swallowing.

CONCERNING THE COMPLICATIONS OF ACUTE OTITIS MEDIA PURULENTA.*

BY F. S. ALLEN, M.D.
CINCINNATI, OHIO.

The subject is given as above out of deference to the ordinary dictum. It would be more correct to use the expression: "Serious and fatal forms of acute otitis," rather than "complications." The attempt will be made to show that we have to do with a distinct variety of otitis rather than with complications following the ordinary middle-ear suppurations, that dangerous and fatal meningeal trouble in connection with acute middle-ear suppuration represents a distinct type of infective inflammation. Acute otitis media is caused by germ infection reaching the tympanic cavity, in nearly all cases through the Eustachian tube. Infection by means of the blood and lymph vessels is possible, but difficult to prove. Auto-infection probably does not take place, as under normal conditions the middle ear is probably free from germs. The character of the resulting inflammation depends on the relation between two factors—the virulence of the organisms and the resistance of the tissues, the same organisms producing in one case a virulent suppuration and in others but a purely serous or mucous exudation. At an early stage, i. e., before perforation, it is generally impossible to diagnose between a severe catarrhal inflammation and an acute suppuration. In acute exudative otitis media we generally see a bulging of the drum membrane, indicating that the secretion is accumulating under pressure. This can be only, and it is extremely pertinent to the subject under consideration, because the swelling of the mucous membrane has shut off the entrance into attic or antrum and confined the exudate to the tympanic cavity proper. Secretion accumulating in the middle ear under pressure is generally non-purulent or but slightly purulent, the pressure preventing the exudation of leucocytes. This we know from the fact that nearly always when we make a paracentesis the exudate that first appears is not purulent and that a certain time elapses before free suppuration sets in. The suppuration coming on in a few hours or next day is not due to the infection of the cavity after paracentesis, but is due to the relief of the pressure. We can easily open the drum cavity without infecting it. A similar occurrence takes place probably when perforation occurs spontaneously. The acute cases may end in one of four ways:

1. Everything being favorable, and no secondary infection taking place, the suppuration gradually ceases and recovery occurs.
2. In neglected cases a chronic otorrhea is established.
3. At other times after a varying period, generally while the suppuration is still profuse, the mastoid cells become involved in a pronounced way.
4. On other and not too seldom occasions we get no decisive mastoid or other symptoms, but at a time varying from a few days to several months from the onset of the ear symptoms, meningitis, pyemia, and symptoms of thrombosis or abscess set in.

I have purposely separated 3 and 4 because while brain symptoms may arise in neglected cases of mastoid involvement, still, ordinarily brain symptoms occur without the general free mastoid suppuration and necrosis which we see in ordinary mastoiditis. It is this fourth variety of acute inflammatory ear trouble which I desire to discuss. Can these serious or fatal conditions be avoided? Is there any method of treatment of an otitis seen early which will prevent such occurrences? These are questions of the greatest import to us all. If, as we once looked on the disease, the infection primarily attacked the tympanic cavity and then extended by continuity of surface to the attic, antrum and cells and through the bone into meninges, vigorous treatment, early paracentesis, etc., ought, by getting rid of the dangerous matter in the tympanum, to avoid the complications.

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It would appear that these serious complications are not the result of a transference of the infection by continuity of mucous membrane, but rather the result of a special manner of infection, a peculiar deep-seated germ activity. In other words, grave complications do not result from the filling up of the cavities with pus and then a sort of pressure necrosis of the bone following, but are caused by a distinct method of infection where the organisms are deeper-seated and bring about carious destruction at points remote from the tympanic cavity and, perhaps, in fact generally, with little concomittant exudation from the vessels of the mucous membrane.

Is it not possible that these are the cases either infected primarily through the vessels or where the germs are taken up early by them and carried to other portions of the bone and lead to caries, perforation and the meningeal trouble?

When the infection reaches the mucous membrane, from its surface, and remains superficial we get a great outpouring of pus and now and then mastoid involvement, but the diagnosis of such a complication is generally easily made and with prompt operative interference a fatal termination is exceedingly rare. This is a true complication and is not to be looked on as particularly dangerous. My records show four deaths from meningitis and one unexpected recovery after severe pyemia. In all these cases the suppuration was not profuse and there was a free perforation, in one a complete destruction of the lower portion of the drum, so that there could be no question of dammed up secretion. The cases were all operated on after meningeal symptoms had set in, and but little disease of mastoid cells or antrum encountered, a little pus and granulations, but nothing like what we ordinarily find in acute mastoiditis. In the four fatal cases the post-mortem plainly showed the carious break, but there was no accumulation of pus in the antrum or cells and but little in the tympanic cavity. These parts were not in perfect condition, in one, absolutely nothing in the tympanic cavity.

In a rather superficial search through the literature of meningeal cases I also mark the fact that a free drum perforation existed or was made early, that free drainage either was present or that the inflammation in the tympanic cavity was so slight as not to cause much exudation. Hence the view advocated, that these dangerous and fatal cases are caused by a special kind of deep-seated infection. When the conditions are such that the infective organisms are taken up by the vessels and carried to the bone or deeper portions of the mucous membrane, and to parts distant from the drum cavity, we are powerless to ward off the inevitable result. We are surely not justified in operating on every case of acute otitis where there is pain and headache, or slight mastoid pain and tenderness, because a vast majority of such cases get well without. These were the only premonitory symptoms present in the cases which have come under my observation.

About one year ago an anemic young girl presented herself with the history of an otorrhea of two weeks' duration. The discharge was not very profuse. There was a perforation in the lower posterior quadrant, which was entirely filled by a granulation springing from the tympanic cavity. The mastoid was not red nor edematous, but very sensitive to pressure, and the headache and pain in and back of the ear such as to prevent sleep. Temperature was 99.6 degrees. I touched the granulation with chromic acid and packed the meatus with gauze. She continued to suffer for a week, when she appeared again, presenting precisely the same appearances. I warned her of her danger, but she decided to wait a while longer, and in three weeks she came back perfectly well; drum perforation closed; canal dry; no pain nor tenderness. Our case-books are full of such records. Another patient comes with a slight discharge of recent origin, free perforation. Some pain, headache and perhaps slight fever; mastoid tenderness. This condition continues with intermissions for one, two or three weeks, or longer, when one is called to find pronounced symptoms of meningeal trouble. The violent secretory type of acute otitis has in my experience never given rise to anything beyond a mastoiditis. Of course, if mastoid cases are neglected we may get a perforation into the brain, but ordinary mastoid cases are now seldom neglected. It is the miserable, indefinite, slight cases of otitis media with no pronounced symptoms of any kind that have given me trouble, and the histories consulted show this to be a general rule. Such must be due to a deep infection and are totally different from cases where the organisms remain on or in the upper portion of the mucous membrane, where they cause a profuse suppuration and perhaps involvement of the mastoid, but never the insidious acute caries leading to perforation into the meninges. Necrosis and breaking down of the septa between the mastoid cells must occur with every severe inflammation of the mucous membrane covering these thin lamellæ of bone, but it is not similar to the caries which leads to perforation into the meninges.

Rarely these two kinds are associated. A case in point occurred in the hospital practice of Dr. Thorner and myself. Here there was an acute profuse suppuration followed by acute mastoiditis. Dr. Thorner performed the usual operation and leaving the service soon after, left the case in my charge. Everything went well for a time, discharge from the tympanum ceased, perforation in the drum closed and the mastoid wound was granulating nicely. About four weeks after the operation a swelling developed in the occipital region, 1½ inches back from the operation wound. This was incised and a little pus evacuated. Five days thereafter the patient developed meningitis and died.

The post-mortem showed the tympanic cavity dry; operation opening in good condition. There was no connection between the wound and the small abscess over the occipital region. There was a carious break on the anterior surface of the pyramid, just above the tegmen tympani, and from this opening the meninges had been affected. Here the infection must have been carried by the vessels to these remote parts and the operator was absolutely unable to prevent it. I believe infection of this kind occurs in the vast majority of fatal cases, and that we are powerless to ward off the brain affection.

Right here it might be well to discuss the question of early paracentesis. Does this procedure tend to prevent dangerous symptoms? In the cases here spoken of, perforation occurred early and spontaneously and, moreover, the suppuration was not profuse, and this is the general history of such cases. Paracentesis can have no place in cases which rupture early and in which the suppuration is slight, and such cases are the dangerous ones. We are taught that paracentesis is indicated where there is bulging of the drum, and this bulging means that the exudate is confined to the drum cavity proper, a condition in which there is little danger of serious trouble. In such cases also the vessels are pressed upon and the danger of absorption and transference of infection must be lessened, just as in acute pneumonia we get no absorption of the exudate in the alveoli until the mass softens down and the lymph-channels open up. Here also paracentesis can be of little saving value. Paracentesis does often shorten the duration of an acute inflammation, it also often prolongs it by allowing the establishment of free suppuration. Hence, I believe that we are justified in putting off paracentesis just as long as possible. Of course, if the pain can not be relieved by other measures, we must resort to it, but if pain can be controlled we need not feel obliged to open the drum for fear dangerous complications may arise.

As to early mastoid operation, here we meet with the greatest difficulty in deciding for or against operation. Free mastoid suppuration, such as results from extension of infection from the tympanic cavity to the cells, almost always gives rise to conditions such that he who runs may read. Here the indications for operation are plain. In the dangerous forms of deep infection, mastoid and other symptoms are slight, and we must be in doubt as to the advisability of operating. Nor can I look on early operating on the mastoid as a means of avoiding trouble. The deep-seated carious spot we can expect to run across only by rare good luck, and why this caries, if not reached, could be benefited by a free mastoid opening, is hard to see. Operation when brain symptoms have already occurred may do good. I am speaking only of the effect of operation in voiding off the meningeal symptoms. As far as my own experience teaches, I feel that we are altogether at the mercy of the disease and can only hope that the meningeal infection will be about the sinus and lead to thrombosis or abscess, and not to immediate meningitis. Fortunately, deep-seated infection and acute caries as the result is of rare occurrence, and it is Nature whom we have to thank rather than any preventive therapeutic measures which we can institute.

DISCUSSION.

Dr. C. R. Holmes, Cincinnati, Ohio—In a general way I wish to say that I agree with the utterances of Dr. Allen. With regard to when we shall operate and when we shall not operate, it is sometimes rather difficult to determine. It is only very recently that that was taught me as on other occasions. A young man recovering from la grippe came to me with the statement that he had had it four weeks and had been treated by the family physician. Tenderness was present. We should not wish to operate on every case we meet, and I told him that perhaps he could be spared an operation. I advised the use of hot douches. I wish to say here that I never use ice; I long ago abandoned the use of it in acute inflammation of the ear. In three or four days the case seemed to be cured. A few days later the patient came back with a little increase of tenderness, and so the case continued for four weeks. The patient then came in with the tenderness so marked that we had to operate. Although the disease had only existed eight weeks, a most extensive operation was necessary. So we had better err on the side of too early operation rather than too late. I regard the exploratory part of the mastoid operation as perfectly safe, outside of the anesthetic. We may sometimes be misled in specific cases. Fortunately syphilis does not localize itself very often in the mastoid, but I had one case which also seemed to get better and worse. There were no other symptoms of syphilis. On opening the mastoid I thought we had to deal with a sarcomatous mass. I curetted and then, to make sure, gave iodid of potassium, and the case cleared up beautifully. It was a case of syphilis, which is rather rare. We also sometimes have death resulting, not because we have caused infection, but because the infection has existed at the time the patient comes under observation. I have two such cases on my records in which the patients came in with high temperature and chills and everything pointing to infection of the brain. I made the radical operation and then waited a day and a half, and, the symptoms continuing, I trephined and found a general meningitis. The case that I call to mind was so extensive that the patient died. Once in a while we lose our patients, even if we operate, because infection of the brain has taken place before we operate. But I believe infection seldom takes place after the operation; that is very rare.

Dr. Irwin—I had, within the past year, an exceedingly interesting case of complication of acute otitis media, of which possibly many of you have noticed a report in the Journal of January or February. It will be necessary to give you a little of the history of the case. A girl came to me, at this time only 8 years old. She had had an otitis media when about three months old, and recurring more or less frequently during the following five years. About three years ago she came for treatment, and after three or four months she seemed to be entirely cured. There was no further disease of the ears for about two years. A year ago last May she took the measles and a few days later an acute otitis media appeared, first in the left ear and a week or so later in the right. There was an old perforation of the tympanum of the right ear, which had never closed. The other ear had closed two years before, when I treated her. The peculiar complications in the case, though, are what I wish to call your attention to. There was some general headache and considerable pain attending the acute attacks in each ear, which lasted a few days only, and an early opening of the drum-head allowed free evacuation of pus. After a week or more the inflammation and some little attending fever disappeared. There was at no time any evidence of mastoid disease, nor had there been during her former attack of the disease. About the second week of the attack of ear disease she was taken suddenly every evening about bedtime, with a peculiar condition that I would hardly know a term to express. She appeared to simply quit breathing, the heart was almost quiet, and still she was conscious. She would remain in that condition for about five minutes. Then she would come out from the condition and go to sleep.

There is one other complication that I want to speak of. About the third week of the disease she developed at first dual and later triple personality, and finally five different personalities, and she continues still to manifest those different personalities. She would awaken in the morning, herself, and in an hour or so change to another girl of about half the age. She would then know nothing of the occurrence or associations or acquaintances of her present age. She would pass over in an hour, or perhaps a few hours afterward, to the third personality, which represented a little girl 1 year of age. I would like to ask of this Association whether this was really a brain complication of the original acute inflammation of the ear without mastoid disease, or was it simply a nervous manifestation developed in consequence of the disease?

Dr. L. C. Cline, Indianapolis, Ind.—I wish to congratulate the Doctor on his short and precise paper. In this connection I would like to mention two cases that came under my observation, in which there was great tenderness over the mastoid and great pain in the middle ear, that followed la grippe. One of the cases in particular suffered great pain all of one night, and I was thinking I would have to do a mastoid operation. I did a paracentesis in both cases and they were instantly relieved.

Dr. J. A. Stucky, Lexington, Ky.—I fully agree in the main with the paper by Dr. Allen, but I can see no reason why we should not do an early paracentesis if there is bulging of the membrane, and if there is much pain. I believe, with Dr. Holmes, that if we are careful in cleansing the canal, there will be no danger of further infection. If we have bulging and much pain, there is already some infection. I agree with Dr. Holmes regarding the use of cold in these cases. There are two old remedies that I have been using the last two or three years with much success. One is the counterirritation produced by tincture of iodin painted over the mastoid process, which does often relieve the pain. I do not use the leech. The other is salicylate of soda, in 10-gr. doses, to relieve the pain. This is superior to opium.

Dr. Geo. L. Richards, Fall River, Mass.—I have had some experience in line with what Dr. Stucky has said. But I am still using cold. I recall a case of acute otitis media with mastoid pain, in which I made a paracentesis, put in a gauze wick drainage and had it changed as often as it was soaked through. A Leiter coil was placed over the mastoid, and in thirty-six hours the pain ceased. If we can get good drainage there is no danger from paracentesis. And the gauze wick drainage will remove the discharge, acting just like the wick in the lamp. I have had two cases of a similar character during the past winter, in each of which free paracentesis with gauze wick drainage and the cold Leiter coil over the mastoid aborted a beginning mastoid inflammation.

Dr. B. Alexander Randall, Philadelphia—I am sorry I have not heard the entire paper, as I was late in arriving, and may speak on some matters aside from the direct question. There are some points I have made so frequently that I am almost ashamed to reiterate them; but at the same time they may need reiteration. The knowledge of the anatomy of the parts is important, and I want to make a protest against the phrase "mastoid antrum." If we drop the term "mastoid" we will make an advance, because it is the *tympanic* antrum. The sooner we fully accept this the sooner will we cease to misunderstand many of the complications.

The general question of what we shall do in these serious cases is one that will always test the expert to the utmost, and all who have had any considerable experience know that we have frequently been misled, and it is only by the widest experience that we can hope to come to the facts of the case in the great majority of instances. We can do much good if we watch our cases and treat them properly; but I get a little out of patience with the reports of this or that case of mastoid disease, that got well without operation because this or that was done. There are a large number of cases that do not need operation. If we use either hot or cold applications, we can clear up many of them, and not only mastoid cases but those in which the complications are exceedingly serious and threatening. I remember one case I was called to at midnight, to find all ready for opening the cranium, and one of my neurologic friends was "tearing his hair" to determine *where* a trephining was to be done. The patient had been paralyzed on one side and convulsed on the other all day, and the case was apparently a very serious one. I was asked to look at the eyes for localizing symptoms, and I insisted on looking at the ears first, especially as he had had previous otorrhea. I let out the fluid that was there, serous apparently, and the twitchings at once ceased. I put in a syringe and it took two nurses to hold the arm and leg that had been paralyzed, while I washed the ear out.

So these cases may puzzle the best of neurologists and be promptly relieved by proper treatment, or even without it. The importance of paracentesis in these cases is greatly overrated. We should not omit to do it or any other thing that appears the right thing, even if only to satisfy the wise critics who know all about what you ought to have done in the cases which they never saw. But that paracentesis or any other procedure will cure all of these cases is beyond possibility, and those who make such claims only stultify themselves.

Dr. Chas. H. Baker, Bay City, Mich.—Dr. Allen suggested that in the ordinary type of the acute cases, in which the swelling came on promptly and the symptoms were fulminating, as perhaps I might express it, the merest tyro could by operation relieve those cases and recovery was the rule. The only fatal case of mastoid operation I ever had—and I consider myself lucky to have had only one out of a comparatively large number—was of that kind. And I would like if the more experienced operators here could give me the cause of death in that case. The patient had had an ordinary attack of la grippe, and at the time of my first visit mastoid inflammation had lasted perhaps a week or ten days. The temperature was 102.5 F., the pulse was accelerated and there was swelling over the mastoid. It was a typical acute mastoiditis. The operation was simple. No necrosis of the mastoid bone proper was found. As is usual in that class of cases, the patient's symptoms all improved following the operation, the temperature went down to normal, the pulse became practically normal, the pain in the head entirely ceased, and the patient's condition in every way seemed better. That condition lasted for thirty-six hours after operation. There had been no cerebral symptoms. About noon of the second day there was vomiting. The family physician was called at 6 o'clock and found the patient still vomiting, and that night the patient died. I did not get an autopsy and I have been unable to determine the cause of the fatal result.

Dr. C. F. Theison, Albany, N. Y.—I agree most thoroughly with Dr. Allen's remarks. I rarely have complications in acute otitis media. I most seriously believe, however, in early paracentesis. I believe that if paracentesis is done as soon as bulging of the drum membrane is noticed, complications will often be avoided.

Dr. S. E. Allen, Cincinnati, Ohio—I brought up this subject chiefly to determine the position of the otologists as to what could be done to prevent these serious complications. The general practitioner, when he sends the case to you early, just as soon as the patient complains of pain, does not expect that patient to die on your hands. Now, they do die on your hands even when you see them in the very beginning. I used to think that when a patient died in the hands of the otologist when he saw the case early, the fault was with the otologist, but I believe now that it depends on deep-seated infection, an infection taken up by the blood-vessels early, and that the acute caries starts up from the beginning of the disease, no symptoms of the acute caries arising until meningitis, thrombus or abscess occurs. I may state also that in the cases spoken of the inflammation in the middle ear was more or less slight and the drum perforation occurred in a day or two from the onset, and there was but little to indicate anything serious until the fatal symptoms occurred.

As to the treatment of these cases, I believe thoroughly in hot applications, and use them in almost every kind of acute inflammation.

Speaking of early paracentesis, an acute middle-ear inflammation is caused by micro-organisms which excite an exudate there. In the start the exudate is always serous or mucous. We know that when we make a paracentesis for a few hours we do not get pus; pus only begins to come out afterward, and that fact I ascribe to the relief of the pressure. If paracentesis can be avoided, much is often gained. As to the whole mastoid being involved at once, I don't see how we can get pressure and bulging of the drum unless the exudate is accumulating under some pressure. I couldn't believe there could be this pressure on the drum unless the tympanic cavity was cut off from the attic or antrum. Therefore the cases which call for early paracentesis are the very ones that will probably give us the least trouble.

ENZYMES IN THE TREATMENT OF NASAL POLYPI, ANGIOMA OF THE NOSE, AND CHRONIC OTITIS.[*]

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JERSEY CITY, N. J.

Nasal polyps, as has been so succinctly shown by Jonathan Wright[1] of Brooklyn, are so-called because of their pedunculated form, and are usually simply an expression of overnutrition of the part; a coincidence with chronic catarrh, and secondarily arising from the inflammatory condition of subjacent periosteum.

A myxomatous polyp, Wright calls "an edematous polyp," because it is a mucous membrane infiltrated and hypertrophied by the encapsulation in fibrous meshes of a more or less fluid mucous secretion. It has varying attenuations, sometimes even being quite firm and resisting. After speaking of the stroma, epithelium, fluid contents, glands and nerves, he says: Blood-vessels are scanty and capillary in size." But these blood-vessels have great importance, and bleed most freely under certain conditions. I will never forget my experience with a patient from whom I had snared, imperfectly perhaps, under eucain, when that deceiving drug was first introduced. The hemorrhage was simply appalling, and recurred in the night. Under cocain, a few days later, a complete and satisfactory enucleation of all the polyps, even removing the splinter of bone from which the polyp had sprung, was accomplished without any alarming symptoms at all. The edematous polyp of Wright then, is readily and easily removed, and, if its seat of origin be at the same time removed and the nasal cavity be kept in a non-catarrhal condition, a perfect and complete cure results.

Quite different is the history of angioma. When one has fairly good cause to believe all the tumor has been removed, he sooner or later finds recurrence, or that his operation was incomplete. This it is that makes one

[*] Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus Ohio, June 6-9, 1899.

[1] Am. Text-book of Eye, Ear, Nose and Throat, p. 1076.

eel quite serious when the best authorities state that a nixed angioma, i. e., an angioma with much intracelluar contents, occurs, that it had better be left alone, ecause, on its recurrence, it is apt to take on a maligant type. As in the case of the edematous polyp, the asal mucosa, where angioma exists, is far from normal. n some parts of the nasal chambers—some authorities otwithstanding—it may be hypertrophied and in others trophied. Angioma has not a small but generally a road pedicle with involvement quite diffuse at the base. Vhether the pedicle be small or large, when it is renoved, there is more or less diseased tissue left. The requent regrowth of polyps after removal is humiliatng to the operator, and discouraging to the patient. Besides, the persistence of these "rag-tags" is one cause or the continuance of hemorrhage after operation.

Pepsin was proposed some years ago for the cure of torrhea, and several observers have written on it. Dr. Cohen-Kysper of Hamburg reported 100 cures out of 50 double deafness cases, by the injecting of hog pepsin r papayotin about the stapedial articulation. I have not had his happy results in that particular pathologic ondition, though I am trying this method by means f enzymol. This is a pure solution of a proteolytic enyme prepared by a direct extraction from the peptic glands of the fresh pig's stomach, slightly acidulated, nd, when diluted with equal parts of water, has about he percentage of hydrochloric acid, characteristic of gastric juice. It is a stable compound under ordinary onditions, and is to be diluted with an equal volume f water. If warm its value is said to be enhanced, hough I have generally used it at the temperature of the ir.

All kinds of chemicals, alcohol, salts, acids, alkalies. powders and oils have been heretofore employed, and ometimes with brilliant results, but alas generally with edious treatment, and not infrequently with unsuccessul result, sometimes with damaging effect. I hold that f a treatment is offered without these varying minerals, t is to be preferred. Nothing could be simpler than gasric juice. It is the least harmful, and in my experience he most gratifying. It is the function of gastric juice o break down organic dead matter. It will fulfil its mission outside of, as well as in, the stomach. Besides, t fails to attack healthy parts. Thus it acts on the eye, ear, nose and throat mucous surfaces without detriment to the normal parts, digesting and dissolving sloughs, granulations and detritus. I have used it exensively in private and hospital practice. In acute and chronic suppurative otitis media, and in two cases of persistent suppuration after mastoid operation, it abruptly stopped discharge, with but two or three days' treatment. After removal of polyps of the auditory canal and in morbid conditions of the mucosa of the nasal chambers where extensive exfoliations of bone had occurred, it supplanted the peroxid treatment at the desire of the patient, whose daily attentions to his diseased parts became very much lessened and more satisfactory. In a case of sloughing ulcer of the cornea it acted very happily.

In dispensary practice, my assistants, who formerly were glad to graduate out of the ear-cleaning class, now do not object to the work, because the old familiar chronic otorrheas which had been treated regularly at every clinic show such unmistakable improvement. This improvement has varied according to the thoroughness with which the treatment has been carried out at home. We can now extend to almost hopeless cases an immediate relief in diminution of discharge and of consequent symptoms, with a guarantee of cure. The patient is given a small bottle of the preparation diluted with equal parts of water and directed to instil five drops after thoroughly syringing with pure warm water and drying out as well as possible. The more intelligent patients insert a pencil made of twisted absorbent cotton soaked in the solution. After syringing, this is employed t. i. d. Dispensary work has become less of a drudgery since adopting this treatment.

M. C., aged 7, with subacute suppurative otitis media, after one month's daily treatment by the cleansing with water and peroxid and applications of argenti nitras, etc., was somewhat improved. A large polyp which I had cauterized with chromic acid proved refractory. Two days after employing the enzyme, the ear came to a state of rest. Discharge ceased and the polyp disappeared. The same patient had chronic otitis media, suppurativa left, of four years' standing. This ear had a polyp occluding the auditory canal. After two or three days' treatment with the cotton pencil soaked in enzymol, the polyp had also disappeared and the discharge was greatly diminished. In this ear the treatment was continued for six weeks. If omitted for three days, a little mucoid discharge was found on cotton introduced. Finally, all discharge ceased and the granular surface came to a state of rest. This patient was deaf in both ears and unable to attend school. She now has nearly normal hearing to the watch in each ear and goes to school.

In Rev. T. W. J., aged 35, otitis media, purulent, with profuse suppuration in one ear since childhood, two weeks' use of the above brought the discharge down to nothing, and in H. D. W., from hard contact to 12-40ths.

Where the disease has been active for years, improvement is marked. In less chronic cases cure is immediate and positive. In H. T. P., aged 35, with a very sensitive polyp in one ear, impossible of extraction under cocain, and the patient declining ether narcosis, the above preparation ate up the polyp and freed the canal of discharge.

Finally, the great charm of this treatment is shown in the case of H. T. P., who also had an edematous polyp of the left nostril, which was entirely—so supposed—snared out. One year later it returned and was again snared out with complete relief of symptoms. But this time he frequently used a spray of this diluted, and the chances are that there will be no return of his polyp. Among all the agencies as a means of cure, this is not merely theoretic, but by far the most scientific, practical and efficient.

DISCUSSION.

Dr. J. F. Sheppard, Brooklyn, N. Y.—I have used enzymol more or less, not in dilute form as the Doctor speaks of, but as it comes to us in full strength. In my experience with it I have not seen any marked effect from it on tissue that still retains its vitality, but it has acted favorably on necrotic tissues of all kinds in the ear work in which I have used it.

Dr. J. A. Stucky, Lexington, Ky.—I am intensely interested in the subject of the paper. I did not quite catch the essayist's method of using enzymol in the nasal cavity, and I would like to ask whether he applied it in powder or liquid.

Dr. Sheppard—It is in solution.

Dr. Stucky—Have you ever used it in full strength?

Dr. Sheppard—I never used it except diluted with equal parts of water. I do not know anything about its use undiluted.

Dr. Richards—I would like the Doctor to state its expense.

Dr. Chambers—I have not used enzymol in undiluted form. My experience with it has only been three or four months, but I thought it of sufficient interest to bring before this Association. As to the price, it is sold in bottles that look to me like they would hold three or four ounces, at $3.60 per dozen, that is with the percentage off to the hospital.

THERAPEUTICS OF KOLA*.

BY CHARLES C. YARBROUGH, M.D.
DETROIT, MICH.

In presenting this paper, I do not claim to offer anything strikingly new, but it is my purpose to direct anew your attention for thoughtful consideration to one of the most valuable drugs of our newer materia medica. This drug has been known to the profession of this country now for nearly twenty years, but notwithstanding this fact, its medicinal virtues are not generally known among general practitioners, and few of those who use it fully appreciate its capabilities. The drug to which I refer is kola—the seed, or nut, of *Sterculia acuminata.*

Kola, being, as is now fully established, a general tonic stimulant acting primarily on the cerebrospinal centers, has a wide field of usefulness. Its stimulation is peculiar in that it is tonic in effect and does not leave the secondary depression and "all-gone" feeling which, like the after-effects of the ordinary stimulants, is calculated to gradually develop into an irresistible desire for a continuation of the use of the drug. Thus kola is not a habit-forming drug, a point of inestimable value in its favor. In substantiation of this assertion I will state that although I have made extensive inquiries of physicians located in different parts of the country, many of whom use kola extensively in their practice, I have yet to hear of a "kola fiend."

Mr. James W. T. Knox, who, under the supervision of Prof. A. B. Prescott, of the University of Michigan, devoted more than two years to the investigation of kola, and who has devoted more scientific study to the drug than perhaps any other one man in this country, has this to say relative to the kola habit. I quote from the *Pharmacologist,* Vol. i, No. 2: "The statement is occasionally met with that the continued employment of kola or its preparations as a medicinal agent or light stimulant results in the contraction of a 'habit.' This habit has been described as being either more or less dangerous than the morphin habit—depending considerably on the fertility of the writer's imagination—and its effects on the body and soul have been depicted in a manner well worthy of DeQuincey. My own experience refutes these statements so completely that I feel constrained to relate it. After all, in my own opinion, the kola habit is a myth, the creature of the disordered imagination of some would-be sensational newspaper reporter, and has no other existence."

There are thousands of habitués of stimulant drugs in this country today, in a pitiful and most deplorable condition, the victims of an unconquerable habit dating its commencement from the use of a physician's prescription calling for the drug to which the victim is addicted. Among these may be mentioned as most prominent, the inebriates of alcohol and coca. Being cognizant of this lamentable truth, the physician should hesitate and consider well before prescribing one of these mischievous drugs.

There may be rare cases where the peculiar stimulant effects of either one or both of these drugs are indispensable, but I hold, and I think my position is fully supported by clinical evidence, that the happy stimulation of kola would be highly satisfactory in the great majority of cases where a general stimulant is indicated. This being the case, kola should be one of the most frequently used drugs of the materia medica, for a large percentage of cases treated by the general practitioner are of an asthenic type and call for the use of some supportive and stimulant treatment. Kola is admirably adapted to such a class of cases, for its co-operating tonic action maintains its beneficent stimulation.

The physiologic action of kola is analogous to that of caffein, but, in its fresh state, especially, differs in that it is more pronounced and prolonged. Just why fresh, undried kola should possess such remarkable advantages over the drug in the dry state is not clear, but it seems that a rational and plausible explanation is that the caffein in the former is presented to the system in such a form, dissolved in the natural juices of the drug, that it is readily liberated in a nascent and highly active condition. Whatever may be the true reason therefor, the fact remains that the fresh, undried kola is by far the most effective and preferable. Dr. Le Bon was among the first experimenters to call attention to the superiority of the action of kola in the fresh state, and his assertion that only the fresh drug is capable of producing the remarkable effects that has rendered kola so notable and so highly prized by the natives of the country whence it comes has since been verified time and again. The failure of some physicians to get good results from the use of kola has no doubt been due, in some instances, to the employment of preparations representing the dried drug.

Of the new therapeutic application of kola, where its success has been particularly noteworthy, is its exhibition in the treatment of that obstinate disease of childhood—pertussis. Blocker reports that he has used it in a large number of cases with surprisingly good results—the attack being cut short and the child's condition rapidly improved. How this kindly action of kola in this disease is effected, I will not essay to theorize. However, that its influence has been so grateful in a large number of cases should be an incentive for further trial along this line to the end that its true value in this disorder become established.

In asthma, kola has proved itself to be peculiarly beneficial, relieving many cases, some permanently, where other medicinal agents have failed to give good results.

On the hypothesis that asthma is a true neurosis of the respiratory apparatus, it seems obvious that kola should be of material service in that affection. It must be admitted that there are a variety of causes that will produce an asthmatic condition, but the manifestations of the disease are always nervous in character. Kola has been employed with signal success in some very obstinate cases of asthma, and this fact entitles it to be considered in formulating a treatment for this dyscrasia. At best, asthma is very unsatisfactory to treat, and any drug promising to give prolonged relief to the distress of an asthmatic patient should have a careful trial. There are some forms of asthma where kola, or for that matter any other medicinal treatment, will be useless, for example, those cases due to pressure of tumor on the pneumogastric nerve. Because kola acts well in a number of cases of asthma, it must not be taken for granted that it is a specific for that disease, and, if it fails in some instances, it does not follow that it is valueless in all. This is an axiom that should be applied to all drugs in their respective therapeutic applications.

Kola is a decided diuretic. It acts more energetically on some people than it does on others. In my own experience it has proven to be very prompt and satisfactory as a diuretic, even more so than caffein and digitalis combined. There are indications that strongly suggest some peculiar direct action on the kidney, although its ction is largely indirect, by increasing the blood-pres- ire. Being a reliable diuretic, it is highly serviceable in right's disease, cardiac and renal dropsies, rheumatic nd rheumatoid conditions, and in all cases where a timulus to diuresis is indicated, and particularly in nose cases characterized by atonic conditions.

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As a cardiac tonic, it ranks well with digitalis, and, ke the latter, as just stated, causes an increase of urine. Cola, unlike digitalis, does not have a cumulative ac- on; hence it is a good substitute for digitalis and may e used wherever the latter is indicated, or the two may e advantageously combined. Kola is, then, of service in ardiac diseases, in cases of shock with collapse, delirium emens, etc.

Melancholia is another morbid manifestation which is y no means rare in which kola gives admirable results. here have been cases, apparently irremediable, that have een entirely cured by the timely use of kola. The value f kola in this disease is gradually becoming more wide- y and better known, and, as a result, it is now used in early if not all of the leading institutions for the eatment of mental diseases.

In alcoholism and morphinsm, two deplorable condi- ons, the effects of kola as a stimulant and supportive re of great service in sustaining the system against hock from gradually reducing or interdicting entirely he use of alcohol or morphin, respectively. It is true, he cure of these habits depends largely on moral suasion nd a determination on the part of the victim to rid himelf of his vice, but, withal, a stimulant whose effects will eplace those of the irresistible habit-drug without itself roducing a depressed and vitiated condition of the sys- em, is of immense value in tiding the individual hrough the ordeal of breaking away from the influences which his system is so accustomed.

Kola is of value in combating and preventing surgical hock. Administered before and after a surgical opera- on its power of conserving strength and exerting a onic influence on the nervous system will certainly ender the patient less liable to collapse. It has been sed by some of our leading surgeons for this purpose nd invariably with success.

Uterine inertia, when due to nervous exhaustion or ccurring in weakly, debilitated women, has been found be amenable to the action of kola. Kola is also useful normal parturition to sustain the strength of the pa- ent and stimulate the uterus to its best action.

The sustaining, strength-conserving power of kola, its haracteristic action, makes it then of great importance a therapeutic agent. It renders it peculiarly applic- ble to all those conditions where fatigue and exhaustion re imminent. Many physicians take advantage of this roperty of the drug to sustain themselves through extra nd long-continued work, and especially if their duties ll for loss of sleep.

Oxygen as an Antidote for Coal Gas.

Herbert E. Friend's case demonstrates that oxygen is directly irative for coal-gas intoxication. The patient, after lying all ight in a room in which gas was escaping, was found in pro- und coma, pulseless, the eyes open, pupils widely dilated, ce and lips dusky, and in a condition of marked opisthotonos. he respiration was shallow and irregular and the heart-sounds ardly audible. Strychnin and digitalis were injected in full oses, and oxygen administered as soon as procured. The relief gave was the more striking because each interval in its use as followed by a return of urgent symptoms. The muscular pasms subsided in four hours and the conjunctival reflex re- irned after six hours, though consciousness was not complete ntil the next day.—*Progressive Medicine, Vol. iii.*

FLOATING KIDNEY SIMULATING DISEASES OF THE GENITAL ORGANS IN WOMEN.*

BY A. LAPTHORN SMITH, M.D., M.R.C.S. (Eng.)
Fellow of the American and British Gynecological Societies; Professor of Clinical Gynecology, Bishop's University; Surgeon-in-chief of the Samaritan Free Hospital for Women; Gynecologist to the Montreal Dispensary, Surgeon to the Western Hospital.
MONTREAL, P. Q.

By the division of labor and the increasesd attention which each branch of our art thereby receives, mistakes both in diagnosis and treatment are growing fewer year by year. As far as diseases of women are concerned, the writer believes that 95 per cent. of those who submit to treatment are entirely cured; and even this small percentage of failures would be still further reduced if we could eliminate all errors of diagnosis. Floating kidney is one of those diseases which gives rise to so many symptoms which we have been accustomed to attribute solely to the genital organs, that it is no wonder that its presence has often not been recognized, and the patients suffering from it after having undergone one or more gynecologic operations have continued to suffer and complain as much as ever of those reflex disturbances which we thought depended entirely on a laceration or displacement of the uterus or on some disease of the ovaries or tubes.

Most of the failures to cure women by gynecologic treatment are due to defective diagnosis by the inexperienced or careless, the result being operation for one disease when there are other and more important ones present, many women have been operated on for lacerated cervix only, and have been promised a cure which they did not obtain because they also had endometritis, retroversion with fixation, pus tubes and ovaries, appendicitis and lacerated perineum, and should have had not only an amputation of the cervix, but also a dilatation and curetting, repair of the perineum, removal of tubes and ovaries and vermiform appendix and ventrofixation. Other failures are due to incompetent operating, as when the operator fails to follow Emmet's expressed directions to remove all the scar tissue before sewing up a lacerated cervix. When a complete and thorough diagnosis has been made and all the abnormal conditions present have been remedied by skilful operations and other treatment, the result is satisfactory in almost 100 per cent. of the cases.

There are some failures which occur in the practice of the most experienced specialists which, however, are none the less humiliating to him and disappointing to the patient and her family physician. The two most important causes of these are appendicitis and floating kidney, but the latter topic will be quite sufficient to occupy the time for one paper. We are indebted to Hahn, Landau, Lindner, McCosh, Keen, Senator, Schmidt, and more especially to Noble of Philadelphia and Edebohls of New York for having brought the question so forcibly before us. As the writer has met with quite a number of these cases, in which the displaced kidney produced all the symptoms of diseases of the genital organs while the latter were perfectly healthy, or in which well-defined diseases of the uterus and appendages coexisted with displaced kidney, so that the patient continued to suffer as much as ever even after the thorough removal or repair of the affected genital organs, it may be interesting to study this rather obscure condition so that we may all more readily recognize it when present, and thus avoid disappointment in the cases referred to.

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* Read before the Canadian Medical Association, Toronto, 1899.

A few words first as to its cause: This is not yet certainly known. It is much more frequently met with in women than in men, having been found as often as ninety times in five hundred gynecologic cases, by Lindner, while Noble has found it in about one in every four. It occurs much more often in the right side than in the left, owing to the right lobe of the liver being larger and more apt to push it down; although a few cases have been recorded in which, the symptoms having continued after the right kidney had been stitched up, a further examination revealed a displacement of the left kidney, the fixation of which was followed by a complete cure. in bed for several weeks the kidney slips up into place to be movable. The present paper does not deal with congenital displacement, because in these cases the kidney is not movable but firmly placed in its abnormal position. It is generally thought that a tight corset or rather tight lacing is a cause, and although Noble and Edebohls say that a rather tight corset keeps the kidney up, the writer has had an experience to the contrary. In this case a woman with retroversion of the uterus and a tender prolapsed ovary and a floating kidney, while on a journey around the world, was taken so ill in Montreal that she could go no farther. As she declined to be operated on so far away from home, she was treated so as to reduce the excessive inflammation in the pelvis and to increase her fat; and after a month she was able to get up. She was doing nicely until she was given permission to put on her corsets and go to a public ball. As she had gained a little in size and her clothing had been made to fit her like a glove, her corsets had to be laced a little in order to get her dress on. Although she only had them on for a few hours, all her symptoms were much aggravated and it took nearly a month to recover the lost ground. She was finally sent home with a note to Mr. Greig Smith, who performed nephrorraphy and ventrofixation, but was not allowed to remove the ovary, with the result that while very much better she is not quite cured.

All are agreed on three points in the causation: 1, anything which causes a sudden and marked loss of fat in the perirenal cellular tissue; 2, frequent pregnancies which cause relaxation of the abdominal wall and lessening of the intra-abdominal pressure; and 3, making great efforts in lifting or sudden falls dislocating the kidney. In most of the writer's cases there was a coexisting retroversion of the uterus, which the patients dated from a fall from a chair on which they were standing, or from a strain while attempting to lift a helpless patient.

The most interesting question for us, however, is the symptomatology. If this were better known we would not be puzzled so much when we find women whom we have put into good condition gynecologically, persisting in saying that they are still suffering from the same gynecologic symptoms. The fact is that the kidney is so intimately connected with the great sympathetic system in the abdomen, that its displacement and the consequent dragging on the nerves whenever the woman assumes the erect posture causes very much the same symptoms as does the irritation of the sympathetic from the presence of scar tissue in the angle of a lacerated cervix, its compression by a swollen and prolapsed ovary, or pressure from a retroverted uterus. The symptoms, in their order of frequency and importance, have been, in the writer's experience:

1. Disorders of digestion accompanied with pain not only in the right side, from the dragging, but more especially in the left, and which may be described as a cardialgia or a gastrodynia—some of the patients attributed their pain only to their heart, having also shortness of breath and a smothering feeling. Many of them complained of pain all over the bowels. Two, who first consulted the writer since this paper has begun, said they had a fluttering feeling in the abdomen or as if the bowels were turning over and over. This dyspepsia resembles that due to lacerated cervix, for no matter what you do for it the benefit will only be temporary and the patient will soon complain as much as ever. She may get relief from it for several months during the latter half of pregnancy when the uterus pushes up the kidney with the other abdominal contents; or if a gynecologic operation or a broken leg keeps her in bed—for several weeks the kidney slips up into place and she feels well. But as soon as she gets up, her dyspeptic pains, the anorexia and gaseous eructations, the constipation and foul breath all return. Some have thought that these dyspeptic symptoms were due to the pressure of the floating kidney on the duodenum, but they are present just the same when the left kidney alone is displaced, which can not reach the duodenum.

2. General nervousness—naturally, sweet-tempered women become cross and irritable. They can not sleep on their left side and do not sleep well even on their backs or right sides. As long as they are sitting or standing they can not remain still but are in a constant state of fidgets. It may be noted here that this nervousness, like that due to a lacerated cervix, does not disappear immediately on the cause being removed; the nervous system seems to acquire a disordered habit.

3. Palpitation of the heart, coupled with the pain over the cardiac end of the stomach, leads the patient to have the firm conviction that she has heart disease. Both the rapid pulse and pain disappear almost immediately after nephrorraphy. It should be easy for the gynecologist at least, if not for all practitioners, to understand why a floating kidney should cause these symptoms in the circulatory and nervous systems, for we see exactly the same phenomena brought about by a lacerated cervix. There a diseased condition of less than a square inch of tissue will cause the most marked disturbances in distant parts of the body; headaches, disorders of vision, loss of memory, palpitation of the heart, obstinate constipation and dyspepsia. And when we remember that the great sympathetic nerve and the termination of the right pneumogastric go to form the solar plexus which supplies all the abdominal viscera; that these two nerves supply the heart, and that the sympathetic controls the circulation of the brain, it is not difficult to understand why the irritation of a floating kidney pulling and dragging at the solar plexus should produce all these reflex disturbances in distant organs. As you know, the solar plexus is situated behind the stomach, in front of the aorta and crura of the diaphragm. It surrounds the iliac axis and root of the superior mesenteric artery, extending downward as low as to the pancreas and outward to the suprarenal capsules.

Then we find symptoms directly due to the displacement of the kidney, such as pain in the back, partly caused by the dragging and partly due to the intermittent hydronephrosis caused by the kinking and consequent blocking of the ureter. In such cases the woman passes very little water during the day and the pain increases steadily until she goes to bed at night when, in a few minutes after having emptied her bladder, she will have to get up again and will then pass a large quantity of urine and experience great relief. In other words, she has an intermittent hydronephrosis. In one of the writer's cases the right kidney was found in the left iliac fossa, and as the woman was extremely thin the kidney could not only be felt but could be seen moving anywhere in the abdomen where it was pushed. In another case the distended kidney attained the size and appearance of an ovarian cyst, completely filling the abdomen, and was removed by the writer, by abdominal section, with complete success.

Although marked emaciation is not a symptom, but rather a cause of floating kidney, yet it is so constantly coexistent that it may almost be regarded as one. Certainly when a woman complains of the reflex disturbances above mentioned, and is at the same time very emaciated, the idea of floating kidney should at once come to mind.

Diagnosis.—When the possibility of the presence of floating kidney has been thought of, the diagnosis is comparatively easy. The difficulty so far has been that the symptoms have been attributed to some other cause which has generally been supposed to be in the generative organs. These latter have been subjected to more or less severe treatment, which they did not require or deserve. 'In one of the writer's cases the patient had had curetting and repair of the cervix and removal of the ovaries without in the least relieving the pain, when, on making a careful search, the right kidney was found to be prolapsed. This was stitched up and the patient was completely cured.

It is especially important to remember that all the reflex disturbances may be due wholly or in part to floating kidney. When the latter can be distinctly felt wandering about the abdomen the diagnosis presents no difficulty. But when it has only moved two or three inches away from its proper place, it is not quite so easy to decide. Even such an able diagnostician as Lawson Tait diagnosed a case as one of distended gall-bladder and operated for it in the dorsal position. He found the gall-bladder and adjacent tissues healthy and the kidney in its place. He thereupon came to the conclusion that the tumor, which he and several others had distinctly felt, was a hysteric one. As the patient continued to complain, another operator was called in and on examining in the erect posture, found a movable kidney and completely cured the patient's long suffering by performing nephrorraphy.

If we make it a rule to examine for floating kidney while the patient is standing up and leaning forward with her hands on a chair so as to relax the abdominal muscles while the examiner sits on her right side and a little behind her, we will rarely fail to dislodge it, if it is movable. The fingers of the left hand are firmly pressed into the hollow of the back and the fingers of the right are pressed into the abdomen under the ribs in front, until they meet on the kidney if slightly displaced, or above it if displaced very considerably. Edebohls says he has always succeeded by directing the patient to sit on the edge of a chair with the body inclined forward and the hands resting on the knees. In some cases the writer has found a rigidity of the abdominal muscles, which gave very much the same sensation as a floating kidney; while in others the rigidity absolutely prevented anything being felt in the abdomen. In these cases a little anesthetic will enable one to clear up all doubt.

The only two conditions with which we could confound movable kidney are a distended gall-bladder and cancer of the pylorus. The writer was called to a consultation a year ago with two confrères, one of whom diagnosed cancer of the stomach and the other distended gall-bladder, while the writer diagnosed floating kidney. She had pain, marked dyspeptic symptoms and a bad color, but she had no lump or tumor anywhere while lying down, neither at the pylorus nor under the liver. But on standing up a typical kidney-shaped tumor made its appearance and could be felt about five inches below its proper place. In another case, which proved to be one of cancer of the pylorus, the tumor was not unlike the size and shape of the kidney. It had great mobility, but it could not be pushed up under the left ribs.

Treatment.—As marked emaciation seems to produce floating kidney, is the converse true that marked fattening will cure it? Certainly marked improvement of all symptoms generally appears if the patient can increase the deposit of fat in the abdomen. As we have already said, the Weir-Mitchell treatment of rest and forced feeding has been followed by great benefit. A few cases are on record of apparent cure of the disease without treatment simply because an improvement in nutrition took place. In several of the writer's cases all the symptoms disappeared and the patient was perfectly well as long as she stayed in bed on her back. If the patient can afford it, this treatment is worth trying. The majority of patients, however, want a more rapid relief if not cure, and for them there are two methods of treatment. The one which most of them prefer, although it is not the most satisfactory, is to support the kidney by some form of bandage or pad. If the kidney is only an inch or two out of place a well fitting corset will push everything above the waist line up, and consequently support the kidney. But if the kidney is below the waist line, then the corset will push it down, as happened to one of the writer's patients. The truss makers manufacture a pad and bandage for floating kidney which the writer has tried in two cases without benefit. In fact it made the patients worse, for it did not keep the kidney up and when the kidney slipped past the pad the latter prevented the kidney from going up again. The only good that we may hope to accomplish with a pad and bandage is by crowding up the whole of the abdominal contents. For this purpose a round cushion should be made of chamois leather and covered with a movable cotton cover to be frequently changed. This cushion should be filled with curled hair, for the sake of elasticity and lightness, and indeed for that matter an air cushion of rubber might do as well, and it should be thick enough to give the woman, when it is applied, a distinct roundness or plumpness of the abdomen. It should be put on while she is lying on her back and held in place firmly by means of a broad flannel or woven elastic bandage, so as to keep it evenly pushed into the abdomen. When the patient stands erect, all the abdominal contents will be supported and the patient will immediately experience great comfort. A patient who consulted the writer while this paper was being prepared has been fitted with such a pad and bandage, and experiences such relief from it that she will not entertain the idea of an operation, for the kidney; but as she has a retroverted and fixed uterus as well, she will probably have to be operated on for that sooner or later, and it is better while we are doing any operations which may be necessary on the pelvic organs to stitch up the kidney at the same time.

In those cases in which the above methods of treatment are impracticable or unsuccessful, we must fall back on nephrorraphy or stitching the kidney to the back, which as a rule gives very satisfactory results. The patient is placed on the face while a round billet of wood or hair cushion about eight inches in diameter and a foot long is put under the abdomen so as to push the kidney up toward the back. This does not interfere with the anesthetizing, but on the contrary leaves the movements of the chest free. An incision is made, about four inches long from the last rib to the crest of the ilium through the skin, superficial and deep fascia along the outer border of the quadratus lumborum, and then through the conjoined tendon of the transversalis and internal oblique. We now come on the loose fat surrounding the kidney, and this is picked up, preferably with the fingers, and opened, taking care not to open the peritoneal cavity. This happened once to the writer, but it was immediately closed and did no harm. It will now be easy to palpate the kidney through the wound, when it is grasped with a pair of bullet forceps or vulsellum and brought up to, or better still out of, the wound. The convex border of the capsule is then incised for its whole length and turned aside so as to leave a strip of kidney exposed to the width of half an inch. This is important, because failures have occurred from defective precautions to obtain a long and wide line of adhesions. The kidney should be fixed by not less than five silkworm gut stitches passing through the conjoined fascia and entering a quarter of an inch into the kidney substance. Strange to say, this does not cause any hematuria, as we might expect. When all the stitches are passed, the kidney is dropped back into the abdomen, the space dried out and the stitches tied not too tightly, and they are cut off short. During the last few operations the writer has not employed drainage and the cases did equally well with those in whom he employed gauze, silkworm gut or rubber drainage. Some claim that packing around the kidney with a strip of gauze increases the inflammation and exudation and better adhesions, but on the other hand it prevents ordinary union, which is always desirable from a surgical standpoint when possible. Some operators, dreading that the silkworm gut sutures might cause suppuration, have attempted to anchor the kidney by temporary sutures going through the skin and muscles and which they remove a week or two later. But by this time the adhesions are not strong enough of themselves to hold up the kidney, which is then liable to fall again. Other operators have used catgut or kangaroo tendon, which, for the same reason is to be condemned. The silkworm gut stitches, if well sterilized and not tied too tightly only suppurate in about 5 per cent. of the cases, and then can be easily hooked up with a crochet needle and removed. There is no objection to a little irritation of the cellular tissue, as inflammation of it causes the kidney to adhere more firmly. Some of the writer's patients have complained of soreness in the wound and on the hip bone for a month or two, but eventually this disappears. It is important to remedy displacement of the uterus or of the other kidney at the same time, in order to obtain perfect results.

250 Bishop Street.

Therapeutics.

"Colds."

It is odd that in all our modern advance in pathology there is included so little that is new in regard to the factors that constitute that group of phenomena which we, with the laity, denominate a "cold." This, too, despite the evident fact that many serious and even fatal diseases date their origin from that most common of all disturbances of the normal body functions. Pneumonia, pleurisy, bronchitis, pericarditis, endocarditis, pulmonary tuberculosis, nephritis, and a host of all too familiar affections are recognized by physicians as having at times had such origin. It is admittedly true that the casual relation of a "cold" to subsequent serious disease is much exaggerated by the laity, but that does not prevent our recognition of the indubitably frequent connection.

The ordinary symptoms of the disease are well known to us. There is usually the initial superficial chill accompanied or followed by congestion of one or other internal organ or mucous surface. The selection of the organ attached in a given individual is correctly, but not completely, explained by calling it a personal idiosyncrasy. When this has been said not much positive knowledge has been gained of the real nature of the process. By analogies drawn from modern bacteriologic studies it is concluded that many "colds" are infectious—perhaps contagious. Yet there is little positive information to be had concerning the bacteria involved in the production of this condition with its so infinitely varied results.

Fortunately, accumulated experience has developed reasonably certain and fairly scientific methods of treatment, which if applied sufficiently early afford great hope of avoiding evil sequels. The readiest method consists in at once administering calomel in 1/10-grain doses hourly until six or eight have been taken, following this with a dose of magnesium citrate. Although pathology does not furnish a scientific explanation of its action, great benefit is derived in most cases from the administration of 2-grain doses of quinin every hour, until 10 or 12 grains have been taken by bedtime. A hot bath, followed by one-half a Dover's powder and hot lemonade and whisky after getting into bed, constitute the remainder of the first day's treatment. In the morning a cool sponge, with an alcohol rub, will avoid the danger of going into the open air with the pores of the skin opened by the night's sweat. If there is coryza, an alkaline and antiseptic douche should be frequently and thoroughly employed. Strychnin and a mineral acid will, if needed, effect a prompt return of metabolism to its normal state. Frequently a "cold" may be aborted. The following methods and prescriptions may be found efficient for this purpose.

The patient should take a hot foot-bath on going to bed, drink a hot lemonade or rum punch, and cover up well with blankets to promote free diaphoresis. Some active cathartic should be given which will move the bowels by morning, or a full goblet of solution of magnesia citrate before breakfast.

The following prescriptions have been given by the writer, in numerous cases and usually with benefit:

℞. Tincturæ aconiti........................m. vi
Spiritus etheris nitrosi....................ʒii
Liquoris ammon. acetatis, q.s. ad............℥ii
M. Sig. Teaspoonful in water every half hour.

FOR AGGRAVATING COUGH.

Should there be an aggravating cough present, the following combination will serve a useful purpose:

℞. Codeinæ sulphatis........................gr. iv
Tinct. aconiti..........................m. viii
Spt. etheris nitrosi........................ʒiii
Liq. ammon. acetatis, q.s. ad................℥ii
M. Sig. Teaspoonful every hour or two as necessary.

Here is another prescription which is valuable in the beginning of a cold:

℞. Quininæ salicyatis........................gr. xv
Kryofin ....ʒi
M. Disp. in caps. No. xii.

Sig. One capsule every two hours, for four or six doses, then every three or four hours.

Dover's powder is an old and very valuable remedy, to check the excessive watery secretion from the nose and, when taken at night in a full dose (10 grains) along with the hot lemonade or rum punch, will cause the patient to perspire freely.

Usually the most disagreeable stage of acute coryza is the irst stage, when the patient is sneezing frequently, and a vatery discharge is continually running from the nose, with nore or less complication of the throat. The nasal discharge ind irritation can best be relieved by drugs given internally vhich serve to check secretions from mucous membranes, as small doses of Dover's powder, or opium in some form, belladonna, camphor, quinin bromid, blennostasin, gelsemium, etc. The following formula, prepared by Parke, Davis & Co., is an excellent combination to check excessive nasal discharge:

℞. Quininæ sulphatis
Camphoris, āā .... gr. ½
Pulv. opii .... gr. 1/10
Ext. belladonnæ fol .... gr. 1/20
Ext. aconiti rad .... gr. 1/10

Local applications to the nose are not only very popular, but often very efficacious.

If there is marked congestion of the nasal mucous membrane, a few minims of a 4 per cent. solution of cocain may be applied to the parts, and when the patient can draw air easily through the nostrils, they should be cleansed by thorough spraying with some bland antiseptic solution such as the following:

℞. Acidi carbolici .... m. xv
Sodii boratis .... ʒi
Sodii bicarbonatis .... ʒi
Glycerini .... ℥i
Aquæ rosæ .... ℥i
Aquæ, q.s. ad .... Oi
M. Sig. Use as a spray.

Or

Borolyptol .... ʒiv
Acidi borici .... gr. xx
Aquæ rosæ .... ℥iv
M.

Or, glyco-thymolin.

Or

Sodii chloridi .... gr. xv
Acidi borici .... gr. x
Sodii boratis .... gr. x
Aquæ dist. .... ℥iii

After all mucus is washed from the cavities the membrane may be coated with medicated liquid albolene; the following combinations being both pleasant and effectual:

℞. Mentholis .... gr. iii
Camphoris .... gr. v
Albolene .... ℥i
M. Sig. Use in atomizer.

℞. Camphor menthol .... 3 per cent.
Olei eucalyptus .... ʒss
Olei pine needles .... ʒss
Mildolene, ad .... ℥iv

Powders applied by means of a laryngeal powder-blower, are used by many physicians who prefer them to the oily protectives.

The following are good mixtures for this purpose:

℞. Morphinæ sulphatis .... gr. i
Bismuthi subnitratis .... ʒiii
Pulveris acaciæ .... ʒi
M. Sig. Use by insufflation.

℞. Pulveris belladonnæ foliæ .... gr. xx
Pulveris morphinæ sulphatis .... gr. ii
Pulveris acaciæ ad .... ℥ss
M. Sig. Blow into the anterior and posterior nares. A dram of powdered camphor is often a good addition to the above prescription.

℞. Pulveris camphoræ .... ʒii
Acidi tannici .... ʒss
Pulveris sacchari albi .... ℥ss
M. Sig. Insufflate thoroughly twice daily.

For the relief of the congested membrane, the following powder may be cautiously used:

℞. Cocainæ hydrochloratis .... gr. iiss
Mentholis .... gr. iv
Acidi borici .... ʒss
Pulveris caffeæ .... gr. viii
M. Sig. A small pinch in each nostril every two or three hours.

In severe cases in which the larynx and bronchial tubes have participated in the inflammatory condition, tonic and stimulating remedies are usually indicated late in the course of the affection, strychnin being perhaps the favorite remedy, although quinin, iron, coca, etc., may be used to advantage. Should bronchitis prove troublesome, expectorants will be needed, varying in composition according to the individual case.

Palatable Quinin Mixture for Children.

Having had occasion to prescribe quinin repeatedly for young children, and being dissatisfied with the combination with syrupus yerbæ santæ, Greanelle made a number of experiments with a view to obtaining a pleasant and acceptable quinin preparation which could be continuously administered to children without their objection, and details the preparation of a "child's quinin mixture," readily taken by children but also serviceable as a bribe to be given after unpleasant medicines, such as stronger solutions of quinin. The mixture is designed as a tonic and malarial prophylactic for children living in malarious sections. It will serve for active medication in acute cases of malarial disease in children of 3 years or younger by giving the larger dose at hourly intervals. He finds that children literally cry for it and that it has frequently served as an excellent bribe, to be given immediately after a simple solution of quinin hydrochlorid in water when large doses of the drug are necessary. A teaspoonful of water carrying two or three grains of quinin muriate will be readily taken by any child, with "a spoonful of pink medicine right after." Those who have little patients in large numbers will appreciate this.

(1) ℞. Quinin hydrochlorate .... gr. v-gr. x;
Alcohol .... ʒi
(2) ℞. Oil of cinnamon
Oil of anise, āā .... m. xxx-xl
Magnesia, q.s.;
Water .... ℥i
M. Let stand for some hours; filter.
(3) Mix 1 and 2 and add:
Simple syrup .... ℥iii
Carmin or cochineal solution .... gtt. v.
Dose, one or two drams, as directed.

Saccharin in small quantity helps to disguise the larger dose of quinin. Small doses of Fowler's solution may be added, if indicated, or sodium bromid for children made irritable by quinin. Druggists will make this in quantity and keep it in stock if requested. It is simple, easily made, and inexpensive. Moreover, children like it.—*N. Y. Med. Jour.*, Oct. 28.

Demineralization of Chronic Rheumatism.

Gaube asserts that every variety of chronic rheumatism, especially rheumatic gout, leads to the demineralization of the tissues and also to their dehydration, as can be easily demonstrated by the analysis of the tissues most affected by the rheumatism, including the blood-serum. The treatment is to supply the lacking elements, and he advises analyzing the total amount of urine collected in at least three times twenty-four hours; to compare the weight of the mineral elements furnished by this analysis to the anthropometric weight by kilogram of the body weight to compare the weight of the water in the urine with the anthropometric weight by kilo-hour; and finally to dose the remineralizing compounds so that their molecular weight corresponds to the molecular weight of the mineral elements utilized in the normal condition in the twenty-four hours per kilogram of the body weight. To determine the correct anthropometric weight subtract 2.5 from the height expressed in centimeters, for a woman, and discard the fractions for a man, using the two right-hand figures only in each case. For a man 164.5 centimeters in height the weight should be 64 kilograms, and a woman of 146.5 centimeters in height, should weigh 146.5 —2.5, that is, 44 kilos. He states that sodium is the dominant of mineralization in fibrous and nodular rheumatism, while potassium dominates sodium in gouty rheumatism.—*Semaine Med.*, September 20.

Injections of Potassium Permanganate in Dysentery.

Gastinel announces (*Semaine Med.*, September 20) that rectal injections of a solution of potassium permanganate assuage the pains more effectively than morphin, arrest the diarrhea and bring about a rapid cure, especially if combined with the ingestion of a gram of calomel. He adds to 250 grams of a cold solution of the permanganate at 1 per thousand an equal amount of hot water, the whole at a temperature of 45 C. The subject lies on his side with feet elevated, then on his back, and then on the other side, until the entire amount has been injected and retained for one to two minutes. It is repeated in twelve hours at first, then at longer intervals, reducing the standard of the solution. The injections are painful but the pain is bearable and never lasts over half an hour and they are always followed by the relief of all the symptoms.

Treatment of Ingrowing Nail.

Kinsman (*Columbus Med. Jour.*) says that he does not remember an instance in which, by the following method, he has failed to cure an ingrowing nail: 1, remove all pressure from the nail by cutting away a piece of the shoe; 2, disinfect with hydrogen dioxid until no "foam" appears; 3, apply a drop of strong solution of cocain in the base of the ulcer; 4, apply a drop of Monsell's solution to the ulcer, then cover loosely with gauze. Repeat this process every second day until the edge of the nail is released by the retraction of the hypertrophied tissue. The patient suffers no pain from the application, and all pain has disappeared by the second day. The cure is effected in a week or two without inconveniencing or interfering with business.

Chrysarobin a Specific for Tokelau.

The extension of our dominions in the Pacific render important the announcement that the "man-fish disease" or "tokelau" of Tahiti and the Malay archipelago can be completely cured with chrysarobin, which evidently destroys the parasite, applied in a 1/15 salve. Tribondeau, who makes the announcement, ascribes the disease, which resembles herpes circinatus, to a fungus, which he proposes to call the "lepidophyton."—*Semaine Med.*

Protargol for Neonatorum.

F. Engelmann of Bonn instilled a 20 per cent. solution of protargol into the eyes of 100 infants, instead of following the usual Credé arg. nit. method, and announces that the almost entire absence of irritation and the positive bactericidal effect render the former much superior. There was not a single case of secondary catarrh, and the slight or moderate secretion that followed the instillations in 80 per cent. only lasted 1 to 1½ days.—*Cbl. f. Gyn.*, No. 30.

Cantharides in Chronic Parenchymatous Nephritis.

Dr. Julius Salinger believes this drug to have distinct curative powers, as well as being valuable as a diuretic in nephritis. The tincture is the best preparation, and is to be given in small doses (one or two minims), as an overdose is easily irritating to the renal epithelium. In two cases quoted at length, dropsy and marked oliguria were speedily benefited and cured.

The following prescription was found satisfactory:

℞. Iron and ammonium acetate................℥ss
Tinct. cantharides.......................m. ii

—*Therap. Gaz.; Am. Jour. Med. Sciences.*

Boric Acid Sugar for Thrush.

Escherich states that the promptest and most effective method of curing thrush and cleansing the mouth, is to put a little boric acid and saccharin in a sterilized rag and give it to the infant to suck.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Journal of Obstetrics, October.

1. *The Gonorrheal Puerperium. Chas. Greene Cumston.
2.—*Preparation of Abdomen for Operation. Henry Harris.
3.—*Reflux of Air into Ureters through Air-Distended Bladder in Knee-Chest Posture. Howard A. Kelly.
4.—*Diagnosis of Tubercular Peritonitis. A. Ernest Gallant.
5.—*Intrapelvic Adhesions. Walter B. Chase.
6.— Night-Terrors. E. L. Tompkins.
7.— Use of Gloves in Abdominal Surgery. J. Wesley Bovée.
8.— Experiences with Intrauterine Vaporation. Abram Brothers.
9.— Case of Exancephalus with Specimen. Edward Hamilton.
10.— Embryotomy and Two Cesarean Sections on Same Patient. John C. McCoy.

American Gynecological and Obstetrical Journal, October.

11.—*Are Dangers of Menopause Natural or Acquired? A Physiologic Study. Anna M. Galbraith.
12.— Addition to Enucleation Method of Ovariotomy, Hysterectomy, etc.; Broad Ligment Forceps used as Temporary Hemostatics, Levers and Tractors while Enucleation is Proceeded With. Illustrative Cases. J. Coplin Stinson.
13.—*Inversion of Uterus. W. M. Donald.
14.— Technic of Antisepsis and Asepsis in Gynecologic Surgery. Charles Greene Cumston.

Chicago Medical Recorder, October.

15. —*Case of Acute Fat Necrosis. L. L. McArthur.
16.—*Case of Spinal Arthritis Deformans. Archibald Church.
17.—*Hematosalpinx Resulting from Occlusion of Vagina in Patient Suffering from Fibroid of Uterus, with Exhibition of Specimen. A. J. Ochsner.
18.—*Pernicious Anemia, Report of Cases. Frank Billings.
19.— Case of Symblepharon Relieved by Plastic Operations. F. C. Hotz.
20.—*Operation for Old Dislocation of Elbow-Joint. Arthur D. Bevan.
21.— Intubation and Antitoxin in Diphtheria. Albert B. Strong.
22.— Aneurysm of Aorta: Recovery. E. Fletcher Ingals.
23.— Shall the Code of Ethics be Abolished. E. J. Kuh.
24.— Case of Dystrophia Muscularis Progressiva, Erb's Type. Bertram W. Sippy.
25.— Case of Laryngeal Tumor. Otto Freer.
26.—*Case of Extirpation of Ankylosed Patella Restoring Function to Quadriceps Femoris. A. B. Hosmer.

Philadelphia Monthly Medical Journal, September.

27.—*Lectures on Orthopedic Surgery. John Ridlon and Robert Jones.
28.—*Clinical Relations of Papillary Muscles of Heart. Henry Sewall.
29.—*Placenta Previa, with Report of Four Cases. F. Spencer Halsey.
30.—*Cerebral Meningitis with the Tetragenus Micrococcus as Probable Cause. J. E. Greiar, G. A. Fackler, E. W. Mitchell and F. F. Hellman.
31.— Spasmodic Stricture of Esophagus, with Report of Case of Unusual Duration. Louis Gross.
32.—*Conservative Operations on Uterus and Appendages; Illustrative Cases. J. Coplin Stinson.

Hot Springs Medical Journal, October.

33.— Ocular Manifestations in Tabes Dorsalis. Herman Schmidt-Rimpler.
34.— Hereditary Syphilis. M. F. Engman.

Medical Sentinel (Portland, Ore.), October.

35.—*Observations on So-Called Spotted Fever of Idaho. Ed. E. Maxey.
36.— Remarks on Etiology of Eclampsia. R. Kelly.
37.— Headaches, Especially those of Ocular Origin. John A. Donovan.
38.— Headache. L. R. Markley.

Ophthalmic Record, October.

39.— Cyst of Vitreous. J. Oscroft Tansley.
40.—*Report of Seven Cases of Retinal Sequelæ of Diseases Affecting United States Troops in Cuba and Porto Rico. W. K. Rogers.
41.— Malignant Neoplasms of Eye. John O. McReynolds.
42.—*Report of Case of Toxic Amblyopia, Illustrating Importance of Detecting this Disease in all Cases where Railroad Employees are Affected. J. O. Stillson.
43.—*Refraction of Trachomatous Eyes. E. E. Hamiltom.
44.—*Excision of Superior Sympathetic Ganglion for Glaucoma, with Report of Case. Geo. F. Suker.
45.— Case of Microphthalmic Eye, with Large Coloboma of Choroid. Frank Allport.
46.— Ciliated Tumor of Conjunctiva. Frank Allport.
47.— An Unusual Case. E. W. Reagan.

Modern Medicine (Battle Creek, Mich.), September.

48.— Significance of Dental Decay. J. H. Kellogg.
49.— Report of Case of Autointoxication Aggravated by Drug Medication. Howard F. Rand.
50.— Report of Case of Mitral Insufficiency, Beginning Glycosuria and Possible Incipient Paralysis Agitans. William B. Holden.

Louisville Monthly Journal of Medicine and Surgery, October.

51.— Gall-Stones in Common Duct: Diagnosis and Treatment. Fouch Warren Samuel.
52.—*Some Practical Points in Intubation. A. G. Blincoe.
53.— Friedreich's Ataxia: with Report of Two Cases. F. H. Clarke.
54.—*Traumatic Tetanus. John A. Lewis.
55.— Observations on Case of Albuminuria. O. A. Kennedy.

Journal of Medicine and Science (Portland, Me.), October.

56.— Mastoiditis. E. E. Holt.
57.— Pulmonary Tuberculosis: New Method of Treatment by Contin ous Inhalations of Antiseptic and Germicidal Air. Alfred Watso

58.— Relation of Physician to his Co-worker. Thomas J. Stevens.
59.— Janet Treatment of Gonorrhea. G. A. Pudor.

Journal of Scientific Medicine (Chicago), September.

60.— Some Trials of a Physician. Henry Stein.
61.— Technique of Intubation. Edwin Rosenthal.
62.— Remarks on Emergency Cases in General Practice. Gustavus M. Blech.
63.— Antistreptococcus Serum Therapy. John Madden.
64.— Pollutions and Spermatorrhea. Victor F. Mueller.

American X-Ray Journal (St. Louis, Mo.), October.

65.—*Excitation of Crookes' Tube by Static Machine. John T. Pitkin.

Southern Medical Journal (LaGrange, N. C.), October.

66.— The Human Brain: Appeal to General Practitioner to Give it More Study. J. Harrison Hodges.
67.— Whatever Profit There is in Medicine Belongs to Doctors. H. O. Hyatt.

International Medical Magazine (Philadelphia), October.

68.—*Antitoxin in the Light of Scientific Investigation. A. Robin.
69.— Herpes Zoster, with Especial Reference to Supra-orbital Type. Jay F. Schamberg.
70.—*High Amputation of Cervix and Vaginal Suture as Preliminary to Abdominal Hysterectomy, with Report of Case. W. Wayne Babcock.
71.— Use of Calomel in Diphtheria. T. D. Coleman.
72.— Treatment of Retrodisplacements of Uterus. Edward E. Montgomery.
73.— Treatment of Syphilis. J. D. Thomas.
74.— Diagnosis and Prognosis of Chronic Asthenic Gastritis (Ordinary Chronic Gastric Catarrh). Boardman Reed.

Colorado Medical Journal (Denver), October.

75.—*Treatment of Pelvic Suppurations. H. G. Wetherill.
76.— Obstetric Lacerations of Vagina and Perineum. W. A. Kirkland.
77.—*Hygiene of the Home. Willam C. Mitchell.
78.— Case of Persistent Foramen Ovale with Auscultatory Signs. Henry Sewall.
79.— Impressions of a Trip to the Netherlands. B. Oettinger.

Therapeutic Gazette (Detroit, Mich.), October 15.

80.—*Destruction of Mosquito: Contribution to Study of Culicidal Substances Bearing on Prevention of Malaria by this Means. A. Celli and O. Casagrandi.
81.—*Intestinal Antiseptics in Typhoid Fever. M. M. Pearson.
82.— Four Fractures Treated by Operation and Wiring Because of Failure to Reduce by Conservative Methods. W. T. Sharpless.
83.— Spontaneous Escape Through Umbilicus of a Catheter Introduced into Uterus. P. N. Eckman.
84.— Choice of Operations for Stone. John H. Brinton.

New England Medical Monthly (Danbury, Conn.), October.

85.— Therapeutic Use of Colloidal Metals. Arthur Schlossman.
86.— Trip to Hot Springs. Virginia. W. C. Wile.
87.— Euphthalmin: a New Mydriatic. B. Treutler.
88.— Notes. Chiefly Clinical, on Bright's Disease and Its Treatment. G. A. Gilbert.
89.— Rheumatic Diathesis. Roy D. Moore.

Merck's Archives (N. Y.), October.

90.—*Digitalis in Treatment of Heart Disease. W. H. Washburn.
91.—*Uses of Europhen. William F. Waugh.
92.— Thoughts on Gastro-Intestinal Therapy. Virginius W. Gayle.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), September.

93.—*Hemophilia. G. W. Wagner.
94.—*Series of Analyses in Acute Melancholia, of the Stomach Contents after a Test Breakfast. Samuel Bell.
95.—*Stricture of Esophagus and Electrolysis by a New Esophageal Electrode. Charles D. Aaron.
96.—*Treatment of Septic Processes of Extremities. Fritz Maass.
97.—*Tongue in Disease. A. I. Burdeno.
98.— Acne Vulgaris and its Treatment. W. A. Hackett.

American Practitioner and News (Louisville, Ky.), September 1.

99.— New Arts in Practice. Wm. B. Doherty.
100.—*Traumatic Tetanus. John A. Lewis.
101.— Practical Treatment of Typhoid Fever. Basil M. Taylor.

Virginia Medical Semi-Monthly (Richmond), Sept. 22 and Oct. 13.

102.— Remarks on Asthma as a Symptom of Uric Acid Collemia. John Dunn.
103.— Physical Examination for Life Insurance. Allen H. Kelch.
104.— Shall We Operate in Every Case of Appendiditis. Virginius Harrison.
105.— Rare Result of Gunshot Injury to Spine. Wm. H. Dial.
106.—*Treatment of Pulmonary Tuberculosis by Inhalation of Antiseptic Nebulæ. Homer M. Thomas.
107.—*Old Age, and Modifications in Course of Ordinary Diseases when They Attack the Aged. Marvin E. Nuckols.
108.—*Form of Diplococcus Scarlatina, Not Previously Described. W. J. Class.
109.— Appendicitis—Report of Twelve Cases. Chas. G. Cannaday.
110.—*Vesico-Rectal Anastomosis. Jacob Frank.

Northwestern Lancet (St. Paul, Minn.), October 1.

111.—*Some Observations on Medical Service of late War with Spain from Standpoint of Volunteer Surgeon. Thomas C. Clark.
112.— Case of Labor Complicated with Nephritis. Theo. L. Hatch.
113.—*Observations on Treatment of Tuberculosis of Bones and Joints. C. H. Mayo.
114.— Some Abuses in Nasal Surgery. W. S. Laton.
115.—*Need of More Systematic Instruction in Diseases of Advanced Life. J. W. Bell.

Medical News (N. Y.), October 28.

116.—*Certain Aspects of Bone and Joint Disease of Interest to General Practitioner. Virgil P. Gibney.
117.— Typhoid Fever in Very Young Children, with Report of Three Cases with Unusual Complications. E. B. Montgomery.
118.—*Therapeutics of Infectious Conjunctivitis. Dudley S. Reynolds.
119.— Case of Hernia of Pregnant Uterus. W. V. Anderson.

New York Medical Journal, October 28.

120.—*Relation of Pathologic Conditions of Ethmoid Region of Nose to Asthma. The Pathology. Henry L. Swain.
121.—*Cause of Death from Industrial Electric Currents. R. H. Cunningham.
122.— Case of Fibrolipoma of Tonsil, with Microscopic Section. Thomas Amory De Blois.
123.— Dry Heat of High Degree as a Therapeutic Agent. C. E. Skinner.
124.—*Alcoholism. Charles J. Douglas.
125.—*Report of Case of Abscess on the Interior Surface of the Epiglottis. Alexander C. Howe.
126.—*Palatable Quinin Mixture for Children. W. J. Greanellé.

Philadelphia Medical Journal, October 28.

127.—*Importance of Early Diagnosis and Operation in Tumors of Mammary Gland. W. L. Rodman.
128.— Case of Large Tumor of Brain, Producing Few Symptoms Save Ocular Changes, with Remarks on Value of Double Optic Neuritis as a Sign of Brain Tumor. James Moores Ball.
129.— A Day's Surgery in the Pennsylvania Hospital. Robert G. LeConte.
130.—*Remarks on Therapeutic Efficacy of Heroin. Max Einhorn.
131.— Stricture of Esophagus as a Complication and Sequel of Typhoid Fever. Case Cured by Abbe's Operation. J. E. Summers, Jr.
132.— Pneumonia Interstitialis with Purulent Destruction of Lung Tissue; Recovery. H. Beck.
133.—*Preliminary Note on the Treatment of Leprosy by Injections of Calmette's Antivenene. R. S. Woodson.

Medical Record (N. Y.), October 28.

134.—*State Care of Consumptives, with an Account of the First State Hospital for Tuberculosis in this Country. Alfred Meyer.
135.—*Sphere of Drainage in Surgery of Appendix. Wm. Stevenson MacLaren.
136.— Brief History of Five Cases of Mastoiditis. Robert Lewis.
137.— Major and Minor Technic of Bassini's Operation as Performed by Himself. E. Wyllys Andrews.

Boston Medical and Surgical Journal, October 26.

138.— Acute Abdominal Symptoms Demanding Immediate Surgical Intervention. Maurice H. Richardson.
139.—*Functional Diseases of Heart. Henry Jackson.
140.—*Responsibility of Attending Physician when a Will is Made. Arthur C. Jelly.
141.— Study of Fourteen Hip Abscesses. Frank E. Peckham.
142.— Examination of Digestive Case. M. P. Smithwick.
143.— Case of Post-Febrile Delirium. Robert W. Greenleaf.

Maryland Medical Journal (Baltimore), October 28.

144.—*Diseases of Stomach. Their Practical Diagnosis with Special Reference to Early Diagnosis of Cancer of Stomach and its Treatment. Robert Hoffman.

Medical Review (St. Louis, Mo), October 28.

145.— Surgery of Gall-Bladder. Wm. A. McCandless.
146.— Intestinal Disturbances in Children. Eugene Thompson.

Cincinnati Lancet-Clinic, October 28.

147.— Speech and Its Disorders. John A. Caldwell, Jr.

AMERICAN.

1. **Gonorrheal Puerperium.**—This paper by Cumston contains a general discussion of the literature of gonorrheal infection in women, with more especial reference to puerperal conditions. He does not think that any definite symptomatology of this infection can be described. It undoubtedly runs a milder course than other septic processes during the puerperal period, but these do not indicate that the process has been cured, for it is a well-established fact that it is chronic, and defies treatment. He reports five cases.

2. **Preparation of Abdomen for Operation.**—Recognizing the existence of a normal cutaneous flora of the skin, Harris describes the methods of cleansing and preparing the skin for operation, in full detail, and deduces the following conclusions: 1. It is impossible to sterilize the living skin. 2. Efforts at sterilizing even the superficial parts of the skin by methods used in the operating-room are unsuccessful in most cases, and probably so in all cases. 3. The degree of sterilization of the cuticular layer of the abdominal skin, achieved by preparation for abdominal section, varies directly with the amount of cleansing done.

3. **Reflux of Air Into Ureters.**—Noticing first the question as to the reflux of fluids from the bladder into the ureters, Kelly records his own observations regarding the entrance of air into these ducts. When the patient is placed in the knee-chest position, and the catheter introduced as far as the renal pelves, a little air sometimes enters and escapes later in bubbles with the discharge of the urine. Sometimes, however, air enters the ureters spontaneously before the orifice is touched,

and becomes heated there to the body temperature and is forced out in little bubbles which have been in several instances a guide to the ureteral orifice. More frequently the air spontaneously enters into an inflamed ureteral orifice on a side which is discharging pus, and when the ureteral opening is concealed in the puffy hyperemic mucosa, its guidance is invaluable. He has observed this entrance of air into the ureters at least a dozen times, and the fact shows that the ureters are not air-tight under some conditions, while it does not prove that they are not water-tight under physiologic conditions. He has never seen any harm come from the entrance of air.

4. **Tubercular Peritonitis.**—The summary of Gallant's article on the diagnosis of tubercular peritonitis is given in the following: 1. Tubercular inflammation of the peritoneum is met with at all ages and is most common in early adult life. 2. It is most frequently met with in women and between the ages of 20 and 40 years. 3. It most often originates in the pelvic sexual organs, and from that point may extend to the visceral and parietal abdominal peritoneum. 4. As a primary lesion of the peritoneum it resembles, in its inception, subsequent history and final outcome, the various forms of the same disease in other serous cavities. It may be secondary to tubercular disease in any other part of the body, especially the lungs and pleura. 5. The most distinctive features of the disease are: a rather constant subnormal morning temperature, rising to the normal in the late afternoon, reaching a little above at night; hypogastric pain on pressure, on walking, and when urinating; and the presence of the tubercle bacilli in the pulmonary, cervical, or vaginal secretions. 6. Anesthetic examination in pelvic cases will often aid in clearing up the diagnosis, but when the abdomen is tensely distended with encysted fluid, unless immediately preceding operation, it will only subject the patient to useless discomfort. 7. A positive diagnosis other than by exploratory incision is in some cases impossible. 8. Early abdominal section, evacuation of the fluid, removal of the original focus, carefully avoiding any attempt to break up intestinal adhesions, thorough irrigating of the cavity with saline solution, and closure of the abdomen without drainage of any form, has been shown by later operations for other conditions, and on autopsy, to have resulted in permanent cure. 9. When confined to the pelvis, removal of the original focus usually results in permanent cure of the disease. 10. Where fluid reaccumulates, a second celiotomy will be curative or prolong life. 11. Tubercular disease in other parts, especially the lungs and pleura, is not a contraindication to operation, which will be followed by a more or less prolonged abeyance or retardation of the disease.

5.—See abstract in Journal, October 21, p. 1045.

11. **Dangers of Menopause.**—The theories of menstruation and of the menopause are discussed at length by Galbraith, who concludes, in answering the question, "Are the dangers of the menopause natural or acquired?" that the enervating mode of life and various unnatural conditions have much to do with the suffering of women at this period. A special point is made that of sixteen patients who had had miscarriages, only one was free from suffering at the menopause. The fact that single women suffer less, as a rule, than married women, would suggest the occurrence of lesions of pregnancy having something to do with the phenomena.

13. **Inversion of Uterus.**—First noticing the rarity of this accident, and asking whether it may not occur with greater frequency than is reported, Donald reports a case in which it occurred during labor and was reduced by pressure by a hot douche at the height of eight feet. He thinks this may be an ideal treatment in cases of inversion seen early before the fundus has extended too far through the os.

15. **Acute Fat Necrosis.**—The case reported by McArthur is that of a young woman who was taken to the hospital in a state of collapse, with a history of sudden pains in the abdomen resembling hemorrhage. The abdominal symptoms indicated that fluid had escaped into the cavity, and after opening the abdomen a large amount of dark, straw-colored fluid was seen oozing from the lesser peritoneal pouch through an opening in the omentum. The mesentery of the intestine presented the well-marked appearance of acute fat necrosis. The lesser peritoneal pouch was opened and packed and the abdominal cavity flushed with hot saline solution and drainage arranged. The patient survived. As the abdomen had been left open an enormous ventral hernia followed, but was corrected by making alternate flaps from the anterior sheath of the recti muscles and stitching them past the midline to the opposite side, thus having firm fibrous tissue over the mesial line as represented by the bases of the said flaps.

16.—See abstract in Journal, October 7, p. 917.

17.—Ibid, p. 916.

18. **Pernicious Anemia.**—In Billings' case, the main features have been an anemia characterized by a great pallor, subjective weakness, prostration and want of endurance, a peculiar lemon-yellow hue of the skin, petechial hemorrhage of the mucous membranes and of the skin at times, and a blood finding representing a profound anemia characterized by a great diminution in the red cells, with marked irregularity in form of cells, polychromatism, the presence of nucleated red cells which gradually increased in number until the megaloblasts were found in double the number of the normoblasts and with karyokinesis moderately present. Associated with this condition of the red cells was a relatively larger percentage of hemoglobin than the percentage of red cells, which gives on an average in this case a so-called high color index.

The usual conditions which are laid down as essential in diagnosis of pernicious anemia are the absence of a disease which ordinarily would produce symptomatic anemia, with progressive and persistent anemia characterized by marked diminution in the number of red cells, with marked irregularity of form and size of red cells, including the presence of very large red cells and of very small ones; a change in the color reaction of the body of red cells—polychromatism—and the presence of nucleated red cells which increase progressively with the disease and sooner or later the megaloblasts equaling or outnumbering all nucleated cells. Further, each individual red cell relatively rich in hemoglobin, so that the hemoglobin, as represented by the specific gravity of the blood or the color test, shows a larger percentage of hemoglobin present than the number of red cells would indicate in a symptomatic anemia. In the anemia due to intestinal parasites, especially the *Ankylostoma duodenale* and the *Bothriocephalus latus*, the blood finding is practically that of the idiopathic pernicious anemia, although the anemia due to these parasites is a symptomatic one. The lemon-yellow color of the skin, due, it is said, to a hematogenous icterus because of the great amount of iron deposited in the liver during the course of the disease, is considered by many as an important diagnostic point.

The disease is probably found more frequently in the female than in the male, and between the thirtieth and fiftieth year, although cases are on record of it occurring in infancy and in the very aged. It occurs in all climates and in all civilized countries. It has been specially prevalent in Switzerland, where the larger number of cases may be due to a closer observation of patients suffering from anemia, and also possibly to the presence of the *Ankylostoma duodenale*.

In addition to the case reported, he has data of ten other cases in which the diagnosis of pernicious anemia had been made. Of these, 4 have died. A post-mortem examination was made on 2. In 1 the diagnosis was verified; in the other the diagnosis was neither confirmed nor denied. In the 2 other cases, unfortunately, autopsy could not be obtained, but the symptoms were so characteristic and the blood finding so pathognomonic that there could be no question of the diagnosis. Of these cases 5 were females and 6 males. The youngest was 25 years of age and the oldest 60. In the youngest the course was rapid, certainly not more than three months from the beginning of the first symptom until death. In another the duration was about 2½ months; the longest was about a year and a half. There was an irregular course of fever in most of the cases; in all where the temperature was taken with some regularity. There were murmurs heard in the precordial region of all, and a venous hum in the neck in 3. The spleen was enlarged in 4, and very large in 1. There was dyspnea on exertion in all, and a feeling of hunger in 2, without exertion. There was hemorrhage into the skin in 3, and in the mucous membrane in 3, hemoglobinuria in 1, hemorrhage from the uterus in 1, and retinal hemorrhage in 2. Headache was a prominent symptom in 2, and insomnia a marked symptom in 3. There was neuritis in 2, myelitis in 1, and sensory disturbance in the form of numbness, formication, etc., in 7.

There was constipation in 7, constipation alternating with diarrhea in 1, chronic diarrhea in 2, and infusoria were found in the stools of 1. One patient suffered from emphysema, interstitial nephritis and general arteriosclerosis, 1 had albumin in the urine, and in 1 hydrochloric acid was absent from the stomach, and lactic acid was increased, while in another there was marked jaundice with an acute yellow atrophy of the liver with a pregnancy of ten weeks. In all there was a marked diminution in the red cells, with marked poikilocytosis, marked polychromatism, marked irregularity in size of red cells with many macrocytes and microcytes, nucleated red cells present at some time in the course of all, and in those fatal a marked preponderance of megaloblasts, and in all karyokinesis. The hemoglobin was in larger percentages than the red cells, which gave an increased color in every case. The white cells were uniformly diminished, excepting in one case, where but one examination was made, and in another one just before death, and in the patient who suffered from probable sepsis, associated with a miscarriage.

20. **Dislocation of Elbow.**—Bevan describes an operation in an old case of dislocation of the elbow-joint by making deep incisions, one over the olecranon at the inner side close to the bone, pulling away the ulnar nerve, then another over the radius in order to expose the radial head of the humerus and the radius itself. In this way the joint was carefully explored without any sacrifice of the triceps tendons, and the arm can be dressed at a right angle. He believes the results will be good.

26. See abstract in Journal, October 7, p. 917.

27. **Orthopedic Surgery.**—Ridlon and Jones continue in this paper their lectures on orthopedic surgery. Among the important subjects treated, hip and knee-joint disease ranks first. The text is elaborate, and the numerous illustrations make clear the application and value of the various mechanical devices for the proper treatment of these common affections.

28. **Papillary Muscles of Heart.**—Sewall considers that the common cause of reduplication of the heart's first sound lies in the independent audibility of the vibrations of the auriculo-ventricular valves, produced by contraction of the papillary muscles. Asynchronism in the contraction of papillary and ventricular muscle is often due to the early fatigue and tardy contraction of the former, produced by excess of intracardiac blood pressure. Reduplication of the first secured, he considers a sign of overstrain of the heart, and it may be confined to either or both sides of the organ. An essential factor in the production of the mitral regurgitant murmur is probably weakness of the papillary muscles, and failure on their part to compensate for systolic relaxation of the chordæ tendinæ

29. **Placenta Previa.**—After reporting four cases of this condition, Halsey suggests that the two cardinal principles to be borne in mind in the treatment are: 1. Delivery as soon as it is possible after the first hemorrhage has occurred and the diagnosis is made, without regard to the viability of the child. 2. Watchful waiting and the adoption of that form of interference which stops the hemorrhage quickly, dilates the cervix, and delivers the child with as little risk to the mother and child as possible.

30. **Tetragenus Micrococcus in Cerebrospinal Meningitis.**—By making inoculations from the cerebrospinal fluid in all of the four cases examined, in the fresh preparation, as well as agar growths and bouillon cultures, the tetracoccus was found in large numbers. The writer disclaims any intention of forming conclusions from the results of the above four examinations, but urges that further investigation be made.

32. **Functional Stricture of Esophagus.**—Occurring in a woman aged 55, associated with edema of the glottis, dyspnea, and absolute dysphagia, there was hemianesthesia of the left side of the body, with hemiparesis; for thirty-six hours the patient was unable to swallow, after which time food was introduced through a gastric tube for a period of five weeks. Under an anesthetic, however, the stricture was removed. Laryngologic examination showed complete immobility of the right half of the larynx and vocal cords, a difficulty in swallowing saliva; in phonation the right cord fails to approximate the left, while the left moves easily. Massage was used in addition to the daily introduction of a sound, as well as the intra-esophageal application of electricity, cold applications, suggestion, and the liberal use of the bromids. After five months all symptoms had completely subsided, excepting a slight hoarseness.

35. **Spotted Fever of Idaho.**—In this article Maxey describes a peculiar disease occurring in certain parts of Idaho and adjoining states, clinically characterized by continuous moderately high fever, severe arthritic and muscular pains, and a profuse petechial or purpural eruption, occurring first on the ankles, wrist and forehead, but rapidly spreading to all parts of the body. This feature gives the disease its popular name. The specific cause has not yet been discovered. It occurs invariably in the spring months and, he believes, is contracted in or near the foothills of the mountains by those who drink snow water. It is much more frequent in men than in women and children, especially in those who undergo exposure. Very few patients die, and the pathology is therefore unknown. The diagnosis is easy. The duration may be several weeks and the epidermis appears to be killed over the location of the eruption on the feet, though it is not so noticeable on other parts of the body. If the patient is transferred to the lower valleys, where he can have proper care and home comforts, recovery is generally prompt and complete. The only sequel noticed has been a little stiffness of the knee-joints for some weeks after. The treatment is entirely symptomatic: baths, change of bedding add to the patient's comfort; the diet and bowels should be properly regulated. For fever, Maxey uses cold sponging with occasional doses of phenacetin or acetanilid, and Dover's powders if required to relieve the pain and restlessness. During convalesence, stimulants, iron and bitter tonics are in order.

40. **Retinal Sequelae of Tropical Diseases.**—Rogers reports seven cases of edema, hemorrhage, infiltration, retinitis, papillitis, etc., following yellow fever, typhoid, malaria and dysentery, in soldiers at Porto Rico. He credits the conditions more to malnutrition than to any other cause.

42. **Toxic Amblyopia.**—In opening his paper, Stillson remarks that he has met with numerous cases of toxic amblyopia among railroad employees, pensioners and private patients within the past year. He is inclined to think that the condition is much more frequent than is usually supposed, and he credits it largely to excess of stimulation, irregularities of life, etc. In women he found that it occurred in heavy coffee drinkers and drug takers. The ordinary course of the disease is recovery, more or less complete, when the toxic element, whatever it be, is completely removed from the system, providing that the condition has not gone too far. He sums up his conclusions as follows: 1. This disease is more prevalent than it was formerly supposed to be. 2. It is to be found among people holding positions of trust and great responsibility, where human life depends on accurate and quick eyesight as well as judgment; any tardiness, therefore, in the visual act, any hesitancy, or lack of decision, may result disastrously both to life and property. 3. This disease is to be considered curable; it differs in this respect from true color blindness or Daltonism; it frequently appears in people whose eyesight has formerly been fairly perfect. It may also appear in people who are color blind. 4. It is more usual among men than women, for obvious reasons; the eyesight of men is more frequently brought into question as a mere matter of responsibility to others. 5. It is due largely to the tobacco habit, to mental and bodily fatigue, which renders the individual more susceptible to the influence of stimulants and narcotics, taken often to counteract the effects of irregular sleep and irregular diet. 6. When neglected it becomes chronic and incurable. 7. While tobacco and whisky probably hold first place as agents in its causation, it may arise from other sources, or be due to complex conditions existing in the system giving rise to auto-intoxication.

43.—This article appeared elsewhere; also see Journal, July 8, title 23, p. 92.

44. **Glaucoma.**—Suker reports a case of excision of the superior cervical ganglion in a case of glaucoma, performed according to Jonnesco's method, with the result of relieving pain and tension but not improving vision. He therefore believes in the efficacy of this operation for glaucoma. If one operates simply for the relief of pain, the ganglion on the same side as

the painful eye should be excised. If one eye is painful and vision lost, while the other eye is not painful and there is some vision, both superior cervical ganglia should be removed, and this should be done in every case of glaucoma excepting the hemorrhagic variety. He claims that this is a logical procedure because the sympathetic nerve fibers of the eye must pass through the ganglion, and these fibers supply the iris, choroid, retina, sclera and ocular blood-vessels, and are found in the unstriated muscles of Tenon's capsule. Their stimulation or irritation causes constriction of the intraocular blood-vessels, contraction of the circumbulbar muscles and increased action of those elements constituting the aqueous humor, thus interfering with the intraocular fluid exchange and causing increase of tension.

52. **Intubation.**—Blincoe lays down the following rules to be observed in performing intubation in young children. The child should be well wrapped, and held in the lap of a person who sits erect, holding the child's feet and legs between her knees, and securing the elbows with her hands, the head resting against her left shoulder. This gives the operator room for depressing the handle of the instrument and starting the tube into the child's mouth, and the child's head and body should be exactly in the vertical position. Take care to select the proper sized tube, and in placing the tube on the introducer the flange should be turned from the operator toward the child's back, so that when introduced the epiglottis may not be impeded. When the left index finger, which in the absence of a finger protector should be wrapped with a soft rag, has found the epiglottis and pulled it forward, and the tube has been guided by it to the opening, the handle of the instrument should then be raised to a horizontal position so that the tube can go straight downward into the larynx, otherwise it will push over into the esophagus. This accident is liable to happen with inexperienced operators. As regards the management of the string, he would intrust it to the assistant who holds the mouth-gag and steadies the child's head. This relieves the operator from all care concerning it, and he can concentrate his whole attention on getting the tube into the larynx.

54.—See abstract in Journal, June 10. p. 1321.

65. **Static Machine and Crookes' Tube.**—Pitkin has devised a twelve-plate static machine which he claims is better adapted the use with the Crookes' tube than the ten-plate ones which have hitherto been the largest employed. By adding the two extra plates the advantage of larger surface is obtained without increasing the size of the plates, and the danger zone around the tube will not be increased. When driven at a moderate speed, his machine produces a ten to fifteen-inch spark, which is very fat, that is, has six electric bands playing between the discharging rods. In X-ray work the new apparatus lights up and maintains a steady ray in a Crookes' tube the size of a cocoanut, enabling a skiagraph to be made through the adult body at a safe distance of one to two feet in one to five minutes.

68. **Antitoxin.**—The incentive of this paper was furnished by the recent article of Herman in the *Medical Record* (see Journal, June 3, ¶ 86, p. 1250), and Dr. Robin refutes the statements there made in detail and at length, giving statistics to support his statements.

70. **High Amputation of Cervix.**—Babcock reports a case of protruding elongated cervix associated with epithelioma on which he operated by first high amputation of the cervix and suture of the vagina and ligation of the uterine arteries, and the subsequent removal of the uterus through the abdomen, which was facilitated by these preliminaries. He lays down the indications for the removal of the cervix during a hysterectomy, as follows: 1. All cases of malignant disease or of tuberculosis of the uterus. 2. Certain cases in which there is laceration, hyperplasia or inflammation of the cervix not to be relieved except by an extensive trachelorraphy or amputation. 3. Certain cases in which the retention of the cervix is believed to predispose distinctly to a future malignant involvement. Of course, there may be cases where the suture of the vagina may be unwise, but even here a temporary suture, to be removed and replaced by a drain after the abdominal closure, may be of service.

75. **Pelvic Suppuration.**—Wetherill reports several cases of pelvic disease treated by vaginal opening and drainage, and discusses the condition generally. He insists on the point that each case must be considered as subject to the same general laws applying to the treatment of such accumulations elsewhere in the body, that is, the pus must be evacuated and, so far as it is possible to do so, a secondary or mixed infection prevented. He has found the vaginal route to be satisfactory in many intrapelvic conditions. He formerly preferred to attack through the abdominal wall, and his opinion as to the legitimate scope of the lower operation is that it has seemed to widen. As regards small tubo-ovarian or appendicular abscesses, however, he believes the abdominal route the best and safest in most cases.

77. **Hygiene of the Home.**—This article points out the necessity of excluding germs from homes, and lays down the well-known rules for consumption and diphtheria. The author also cautions against sweeping in such a manner as to stir up disease-breeding germs. Damp brooms, damp floors and as little useless agitation as possible, combined with the use of a damp dust-cloth would reduce this to a minimum. The kitchen hygiene is also mentioned in detail, and he remarks that the introduction of bacteriologic cleanliness into the kitchen instead of even the best domestic cleanliness would practically do away with a host of ptomain poisonings and intestinal troubles.

80. **Destruction of Mosquitoes.**—This paper, by Celli and Casagrandi, is quite lengthy and goes in full detail into all the methods thus far recommended for the destruction of mosquitoes, which is a point now of importance in connection with the recent discoveries in regard to malaria. The stages in which they are most easily destroyed are the larval and aerial ones, and in the former the younger they are the more easily are they destroyed. To kill the larvæ, we have in order of their efficiency, among the mineral substances, sulphurous oxid, permanganate of potash with hydrochloric acid, common salt, potash, ammonia, carburet of lime, corrosive sublimate, chlorid of lime; and then the bisulphates, sulphate of iron and copper, lime, bichromate of potash, sodium sulphite. Among the organic substances: powders of the unexpanded flowers of chrysanthemums, tobacco, petroleum and oils, formalin, cresol, certain aniline colors—gallol, green malachite—coal-tar. Taking into consideration, however, the necessary larvicidal dose, the practicability, and the price, all the mineral and some of the organic substances must be excluded, and there remain the vegetable powders, petroleum, and the aniline colors. To kill the aerial mosquitoes we have odors, fumes, and gases. Among the odors, the essential oil of turpentin, iodoform, menthol, nutmeg, camphor, garlic; among the fumes, that of tobacco, chrysanthemum powder, fresh leaves of eucalyptus, quassia wood, pyrethrum powder; among the gases, sulphurous oxid. It is, however, to be noted that for these odors, fumes or gases to exercise their culicidal action they must fill or saturate the whole ambient; otherwise they produce only apparent death, or at the most only a culicifugal action.

The problem of the destruction of mosquitoes is experimentally solvable; but, practically, it will only be so when economic interest desires it. In this latter sense it is remarkable that the old larvicidal use of petroleum has not become much diffused even in those places where it is very cheap; and it is probable that those substances which destroy other aquatic creatures injurious to agriculture will be preferred, and perhaps still more those which can be had by cultivating them on the spot. For example, by growing on a large scale, the chrysanthemum plants, from which the culicidal powders are obtained, it is very probable that one will succeed in making the malarial place itself produce that substance which will free it of the mosquitoes that infest it. The opportune season for killing the larvæ is the winter, when they are in least number in the waters, and new generations are not born; consequently, this is the time most easy for attacking them. Destroying mosquitoes in houses is always possible, but to have the greatest effect it is also best to do it in the winter, when they all take refuge in inhabited places, or wherever else they repair. The more complete knowledge of their habits—that is, of the places where and the season when they nest—will aid very much the success of this destruction, which, even in the most favorable cases—that is, when hydraulic improvement will have hausted its task—will not be such an easy work on a large ale as some persons believe and boast.

81. **Intestinal Antiseptics in Typhoid.**—Pearson combats ie notion that typhoid fever is to be treated with intestinal itiseptics, claiming that the disease is a systemic affection ie to a toxin, and not a local disease.

90. **Digitalis in Heart Disease.**—Washburn points out the ses of digitalis and its dangers. He does not think that it is dangerous drug in aortic insufficiency, and its cumulative tion is not especially different from that of other powerful rugs. It is used, however, in cases where it may do more irm than good, and chronic digitalis poisoning is sometimes roduced, while the only result is to overwork and finally eaken the heart. The general principles that are to guide us the use of this agent are that a tonic dose improving the eart's nutrition and energy, is a moderate one, and this dose iould only be repeated after a sufficient interval. If the dose excessive, or the interval between the doses too short, the ost unfavorable results may follow. It may be laid down as good general rule, that to give one grain of the powdered aves or its equivalent once in twelve hours is a sufficient rmal dose and may be continued for months and years withit damage, when it is indicated. In some cases of acute onset heart failure, larger and more frequent doses may be reiired, but the patient should be carefully watched. He says: conclusion, then, digitalis is seldom required in chronic lvular disease during the period of complete compensation. hen the stage of broken compensation is present it is gently demanded, in all forms and combinations of sions, in proportion to the degree of cardiac weakeng. When given in doses of more than 2 or 3 gr. of the powred leaves, or the equivalent thereof, in the twenty-four urs, symptoms of saturation are to be anxiously watched for ien from 30 to 40 gr. have been administered, and the drug scontinued for a few days or the dose reduced as soon as ey appear. The drug is thereafter to be continued in tonic ses. Finally, tonic doses of digitalis are always useful in e treatment of weak, neurotic hearts.

91. **Europhen.**—Waugh reviews the opinions expressed by rious authority as to the value to europhen, and gives his n experience with the drug, which is a favorable one.

93.—See abstract in Journal, June 24, p. 1449.

94. **Digestion in Melancholia.**—Bell reports the results of alyses of the stomach contents in twelve cases of acute elancholia, after a test breakfast consisting of 2 ounces of iite bread and 10 of cold water. The stomach contents were moved an hour and a half later, by the expression method Ewald, using Tiemann's stomach-tube and filtering. A rge number of tests were made and the methods are given in tail. The results show that in every case there was a marked parture from the normal. In several cases there was a tal absence of free HCl, and in a greater number of cases nsiderably too much of it. The medical indications were irked, but have not yet been fully worked out, though the sults have afforded some encouragement. He concludes his per with general remarks on treatment, especially lavage of stomach.

95. **Stricture of Esophagus.**—Aaron discusses the cause esophagus stricture, and describes an instrument he has vised for electrolytic treatment. He reports three cases eated in this way with good results, and in concluding gives e following suggestions as to sounding the esophagus: A careful examination should always be made so that an eurysm may be excluded. 2. A medium-sized soft rubber mach-tube should always be the first tube introduced. ialler ones, down to catgut, can then be used if necessary. Patience will accomplish more than force. 4. If on the reval of a soft stomach-tube we should find no mucus or blood nging to the tube, then only is it safe to use stiffer tubes. Trousseau's olive-pointed sounds are valuable in the locating a stricture. 6. The distance of a stricture from the upper cisors is valuable in locating and determining the cause of e stricture. 7. As soon as a soft tube can be passed through cicatricial stricture, electrolysis can be employed, the negae pole in the stricture, the positive pole on the side of the phoid cartilage. Electrodes should be of greater caliber at ch successive treatment.

96.—See abstract in Journal, May 27, p. 1171.

97.—Ibid, May 6, p. 995.

100.—Ibid, June 10, p. 1321.

106.—This paper appeared elsewhere; see Journal, October 28, title 158, p. 1088; also abstract, p. 1102.

107.—See abstract in Journal, October 21, ¶ 153, p. 1036.

108. **Diplococcus Scarlatinae.**—Class describes a form of microbe resembling a very short bacillus or an elongated diplococcus, which occurs occasionally in cultures of the diplococcus scarlatinæ. It is rarely present in primary cultures, and he believes that it is only one of the many forms of the scarlatina germ and not a separate species, because: 1. It has been impossible to isolate it, although numerous attempts were made to do so. 2. He has never found it except in cultures of the diplococcus scarlatinæ. 3. It is very seldom found in primary cultures of this organism, occurring as a rule in subcultures, in which the large diplococcus has divided into smaller organisms. 4. When a culture of the diplococcus containing this form was injected into mice, the organism obtained in primary culture from its blood and organs was a diplococcus which did not show this form, although in subcultures it again appeared. 5. In subcultures made from cultures in which this form was present in comparatively large numbers, it was not found, thus showing that it could not have a separate existence. 6. The mode of division of the diplococcus into these diplobacilli can be seen in stained specimens of the organism.

110.—See abstract in Journal, October 14, p. 976.

111.—See abstract in Journal, July 8, p. 101.

113. **Tuberculosis of Bones and Joints.**—The conditions of bone and joint tuberculosis are first mentioned by Mayo, and he states the method of treatment employed by him in cases of young people showing the incipient symptoms. Two methods are used which have given equally satisfactory results: One is to make an incision down to the bone, separated by retractors and protected by wet gauze, then penetrating the bone with a fine Pacquelin cautery to evacuate pus, then filling the bone cavity with iodoform powder and closing the external wound without drainage. The second is to use a drill or gouge to locate and remove the disease, with similar treatment of the wound and closure. When the disease has progressed to more pronounced destruction, and there is an excess of fluid in the joint, no treatment has given as good results as the injection of a 10-per cent. iodoform emulsion in glycerin, into the synovial sac after expelling its contents by means of a trocar and canula, the method advanced by Billroth and Mikulicz and advocated by Senn. The glycerin mixture is better than any other preparation in these cases, according to his experience. No splint is used after injection, but the punctured wound is sealed and the ordinary septic dressing applied, and if the joint is in the lower extremity, the patient is kept in bed about four days. There is considerable reaction at first and pain, requiring the use of morphia. After four days he urges the use of the joint, and repeats the injection in two or three weeks, and in most cases secures marked improvement after three or four repetitions. There is a class of tubercular joints, with great excess of periarticular thickening, which are not benefited by this or any other treatment but excision, etc. This evacuation and injection treatment is used in nearly all so-called cold abscess cases, especially those resulting from tuberculosis of the vertebræ, but it is useless in cases of mixed infection or open sinuses which require free drainage and complete removal of the diseased tissue.

115. **Senile Diseases.**—Bell notices the lack of attention given to the diseases of old age, and remarks on the pathologic changes that occur in advanced life. He thinks there should be an awakening in medical instruction as to the importance of this subject, as to the normal changes peculiar to old age, and its peculiar diseases.

116. **Bone and Joint Disease.**—Gibney's paper is a comprehensive one, reviewing a large number of conditions of bone and joint disease and their cause. He speaks especially of the injuries to children from rough handling, pulling them up over the sidewalk in crossing the street, and cautions against the most trivial accidents in children recovering from infectious diseases, as then they are especially vulnerable. He alludes to the production of malignant disease by constantly repeated injury or irritation to a part. The occurrence of blood clots

in the joints from slight injuries, and the effect of such injuries in developing rheumatism and other disorders are also mentioned. He shows how the neurologist is of aid to the orthopedic surgeon in the diagnosis of paralyses and their relief. He speaks at some length in regard to Pott's disease, typhoid spine, which consists of tenderness or pain on pressure or movement without deformity, relieved promptly by treatment, such as with the Paquelin cautery, adhesive strips, etc., and closes his paper with remarks on acute and chronic troubles in the hip and knee, especially the distinction between the acute and chronic, which is of the utmost importance. The exacerbations which occur in these conditions should not recur after the second one in tuberculous disorders, etc., and it is of importance that the disease should be recognized in time.

118. **Infectious Conjunctivitis.**—The different forms of infectious conjunctivitis are here noticed by Reynolds, who finds that they may be produced by special germs; the diplococcus, bacillus of Weeks, micrococcus Pasteuri of Sternberg, etc., together with ordinary pus-producing microbes. The milder forms of purulent conjunctivitis are those caused by the staphylococci, and the most dreaded form by the gonococcus. He points out the distinction between the different types. In the gonorrheal infection the lids are enormously swollen, chemosis is rarely absent and without treatment the cornea undergoes sloughing within the first week. In the staphylococcus forms there is rarely chemosis, especially in those due to the albus, and simple normal salt solutions, or a mixture containing borax and carbolic acid may be sufficient. With the staphylococcus aureus, treatment should be a little more vigorous. In some cases the irrigation may be repeated at intervals of ten minutes for two or three days and nights. In the gonorrheal type a more efficient irrigation may be made by dissolving chlorid of sodium, 3 oz., bichlorid of mercury, 8 gr., and carbolic acid, .5 dram. This should be filtered before using. With this the eye may be irrigated every ten minutes from the very beginning of the attack, and if the treatment is commenced before corneal or conjunctival abrasions occur, they will not be likely to occur later. There is always some danger in the case of infants, and the nozzle of the irrigator should never be allowed to come nearer to the eye than one inch. To perform the irrigation properly, two persons are required, the patient being on his back, one to evert the lid and hold a mass of absorbent cotton to the temple to catch the discharge, while the other manipulates the irrigator. The chief thing in all cases of conjunctivitis is thoroughly cleansing and washing away the accumulated matter. The therapeutic agents most in favor in addition to those already mentioned are nitrate of potash with hydrastis, formalin 1 in 2000 or 1 in 4000, nitrate of silver 1 in 2000 or 1 in 4000, corrosive sublimate 1 in 1000 or 1 in 10000, and a saturated solution of boric acid. Better results are obtained with all these than with the old method of daily cauterization and the use of astringent eye washes.

120. **Nasal Lesions in Asthma.**—First noticing his conception of asthma as a spasm of the bronchial apparatus excited through hyperesthetic conditions produced by disease, also commonly existing in some other organ from which the irritation seems to start, Swain takes up the diseased conditions of the nose that may thus act as exciting causes. He states the pathology in detail, as he conceives it: 1. The existence of simple nasal hypertrophy in the nervously hypersensitive individual. The vasomotor instability and the nerve irritability cause further development of the lesions of the middle turbinate region and eventually an edematous hypertrophy which may become a polyp. These lesions produce pressure over sensitive areas which, by constant irritation become more sensitive so that reflexly there is produced a bronchial vasomotor disturbance. If once the reflex avenue has been opened it is easy to see that the disturbance, which is felt first as a sort of oppression in the chest, becomes later a genuine obstruction to breathing and with, in addition to this, a spasm of the bronchial tubes, we have a full-fledged asthma. This explains the essentially nasal cases of asthma. There are other cases apparently not nasal, but which are nevertheless improved by removing the existing nasal disease. These patients only have their trouble under special conditions, such as indigestion, cold, rheumatic attacks, and menstrual periods. These apparently work through the vasomotor link in the chain. There are still other cases which baffle us entirely to give them a cause, but once in a while, as in one of the cases here reported, where a change from a musty feather to a hair pillow relieved the patient, we find an etiologic factor sometimes entirely outside of the ordinary run of causes. Sometimes only change of scene will be effective, and the author therefore deduces that when treating many of the pathologic conditions in the nose, attended or not with asthma, we must often look outside of the organ and frequently outside of the body altogether for the causes that lead up to them.

121. **Death from Electric Currents.**—In the first part of this paper, published last week, Cunningham shows that electricity kills through the heart and not through asphyxia, as a rule. He continues the subject, detailing experiments, and gives his conclusions. He does not apparently favor the electrocution methods now employed as being in the best sense of the term actually humane. He thinks it possible that consciousness is not entirely lost, though there may not be pain, and the use of the strong currents has produced local effects of the skin and tissues, which are not desirable in a humane execution.

124. **Alcoholism.**—Remarking first that alcoholism is readily amenable to proper medical treatment, Douglas claims that the alcohol should be withdrawn gradually, and that its sudden withdrawal is the principal cause of delirium tremens and death. He maintains that it is a disease of the nervous system, and that individual idiosyncrasy is one of the chief features. The statement that 2 ounces of alcohol a day is a food may be true as to some individuals, but as the statement of a universal law it is absurd. The principal point in his paper, and the one for which he claims originality, is the use of apomorphin in minimal doses not sufficient to cause vomiting as a means of producing sleep in these cases. He says also that it seems often to act almost as a specific in relieving the alcoholic craving. He mentions the nitrate of strychnin as an excellent remedy, though it should be given in smaller doses than the text-books usually recommend. The hypodermic needle is the best method of administering.

125. **Abscess of Epiglottis.**—Howell reports a case to show that perichondritis of the epiglottis may result in abscess. In this case the tumor was excised and nearly a dram of yellow pus discharged. After healing, the surface was dimpled, the lateral curvature flattened and the tip bent forward. In about ten days the epiglottis again appeared in its normal position. The cause was apparently unknown.

126.—See "Therapeutics," page 1153.

127. **Cancer of Mammary Glands.**—The increase of cancer is recognized by the author, who gives 81.66 per cent. of all mammary tumors as cancerous, hence the importance of an early diagnosis. When the cancerous process is strictly local, before axillary involvement has occurred, 50 per cent. should be the lowest figure for cures. In cases of the second degree with undoubted axillary involvement, adhesion between the tumor and skin, but the breast as a whole movable, showing that basal adhesions do not exist, the tumors are operable and a reasonable percentage curable. Of Bull's cured cases, 40 per cent. had unmistakable infection of the axillary glands. In those of the third degree, where there is not only axillary infection but the glands have coalesced, the breast only partially movable, if at all, the skin extensively infiltrated, and supraclavicular glands enlarged, only a very small percentage are curable and operation should be resorted to only after a careful examination of all the favorite sites for metastasis. The evidence of such is a sufficient contraindication. Too many operations are done in such cases as this. Rodman believes that with the increasing frequency of cancer, it is occurring in younger individuals than was formerly the case. He thinks that early operations will cure at least half the cases operated on.

130. **Heroin.**—Einhorn gives his experience with heroin, and believes it to be a very valuable therapeutic agent in allaying cough and easing respiration—possessing also general analgesic properties which render it of benefit in most painful affections. The only unpleasant symptoms he has seen from its use are slight dizziness and dryness of the throat.

133. **Treatment of Leprosy.**—The case here reported is that of a woman aged 36 years, in whom diagnosis was made independently by first-class authorities, and who was treated

with injections of Calmette's antivenene serum, beginning with injections of 2 c.c. daily, increasing gradually to 40 c.c. She was also kept on large doses of hoangnan, and her hygienic surroundings carefully attended to. At the present time there are no ulcerations remaining nor any tubercles, and the nasal secretions are greatly diminished. The anesthesia of her extremities is diminishing to a marked degree, and the change in general appearance is noticeable. He does not attempt to give definite conclusions thus early, trusting to be able to do so in the future.

134. **State Care of Consumptives.**—Meyer's article is a description, with illustrations, of the Massachusetts State institution, and a plea for the establishment of similar sanatoriums elsewhere.

135. **Drainage in Appendicitis.**—Suppurations about the appendix are divided by the author into two classes; those in which the abscess is localized, being shut off by adhesions, and those in which the general abdominal cavity is more or less infected. In the first class he would use drainage; in the second, he believes it not only useless but harmful, and would substitute in its place the filling of the abdominal cavity with saline solution, thus diluting the poison and vastly increasing the area of the peritoneum which is called on to resist it. He reports two cases, neither of them giving a favorable prognosis at first, which were treated by this method with success.

139. **Functional Heart Disease.**—By functional heart disease is understood those cases in which patients complain of palpitation, rapid action and pain in the region of the heart, while careful physical examination gives no reason to suspect organic disease. Many of these cases are undoubtedly due to faulty innervation. The symptoms referred to above may be varied in character, and there may, in rare instances, be retardation of the heart's action. Jackson considers that these cases are much more frequent than organic disease; he attributes them to disturbances of puberty, the use of stimulants and drugs, etc., and notices among them false angina pectoris the cause of which he thinks may yet be found in some pathologic condition. It is distinguished from the true angina pectoris by the frequency of the attacks and their long persistence without any evidence of disturbances of the heart in the intervals.

140. **Responsibility of Doctor in Making of Wills.**—Jelly urges physicians, when called on to sanction the execution of a will or to sign as witness, to thoroughly examine the patient's capability and the will itself. If such examination is not permitted, he would be better out of the case when the will is accepted for probate. If his refusal is objected to, he hould state the delicacy of his position and the importance ttached to his testimony by the judges. In most cases it will then be permitted.

144. **Diseases of Stomach.**—Hoffman describes the methods f treating the conditions of the stomach, and suggests that hey exist for some time in their first stages before any sympoms are observed. He thinks it would be well for patients o have their stomachs examined at regular intervals, as some o their lungs, uterus, etc. This is especially important as

FOREIGN.

British Medical Journal, October 14.

Treatment of Fever Following Delivery, with Special Reference to Serumtherapy. HERBERT R. SPENCER, ARNOLD W. W. LEE, R. H. ANGLIN, WHITELOCKE and others.—First oticing the different forms of fever which may occur in the uerperal condition, Spencer takes up the subject of puerperal ever, properly so-called, which is met with under the forms f acute fatal septicemia; lymphatic septicemia, the common orm, characterized by rigor at the onset and septic peritonitis, nd venous septicemia, with a succession of rigors, septic hlebitis, and frequent secondary deposits. A sloughy condition of the placental site is generally met with in the last wo forms, with abscesses in the uterine wall. Mild cases of uerperal fever are met with, as sapremia or poisoning by the hemical products of micro-organisms, and local infection of he peritoneum, cellular tissue and veins. The most important point in treatment is prophylaxis, which is met by careful management, especially in the third stage and thorough antiseptic precautions. As regards the actual treatment, he thinks that in a general way septic substances in the uterus should be removed, though it occasionally happens that it is better to leave them alone. After emptying the uterus he usually irrigates it once with a solution of iodin (tr. iodin ʒi, aqua Oi), a weak solution of perchlorid of mercury or carbolic or boric acids or a large quantity of salt solution. Continuous irrigation is certainly useful in cases where some adherent tissue has to be left behind, but it is very irksome to the patient and likely to produce sores, so he has practically abandoned it. All forms of intrauterine irrigation are attended with some risk. He rarely employs gauze for draining the endometrium. The cases where removal of the uterus is advisable must be very few, such as carcinoma or fibroids which can not be enucleated. He deprecates the use of antipyretics and advises tonics, stimulants, fresh air and ample feeding. In conclusion he speaks very discouragingly as to the prospects of serum treatment. Lea gives two cases of puerperal septicemia due to streptococcus infection, carefully reported with full bacteriologic examination. One died and the other recovered. He thinks that the bacteriologic examination is important in such cases, and suggests that cover-glass preparations of the uterine secretions be prepared and the diagnosis confirmed by cultures.

Natural Menopause Compared with Menopause Produced by Removal of Uterine Appendages, and That Produced by Removal of Uterus Without Removal of Appendages. J. BLAND SUTTON, J. STUART NAIRNE, JOHN W. TAYLOR and others.—The subject of the artificial menopause and the advisability of removal of the uterus or the appendages is discussed by Bland Sutton, who favors the removal of the uterus rather than the ovaries where choice is possible. In case of removal of the uterus he does not discourage marriage; in the other case he does.

Sixteen Cases of Procidentia and Two of Prolapse of the Uterus Treated by a New Method. J. INGLIS PARSONS.—The author here describes a new treatment which he has used for cases of procidentia uteri on the principle of helping Nature by causing an effusion of lymph in the broad ligament. When falling of the uterus takes place the process is usually very gradual and the formation of lymph is not encouraged or stimulated. To bring this about he has been led to employ a solution of quinin injected into the broad ligament through the vaginal wall. There is little danger, he thinks, if the right point is selected, of touching the arteries or veins or ureters. The outer two-thirds of the lower half of the broad ligament contains no veins or arteries of importance, contrary to the illustrations often given in text-books. "The patient is placed in a lithotomy position. The vagina, which has been thoroughly douched for some days before, is washed out with a solution of hydrarg. perchlor., 1 in 2000. The rectum has, of course, been emptied as well as the bladder. The posterior wall of the vagina is pressed down with a Sims' speculum, while the anterior is held up by a retractor. Even then, in some of those severe procidentia cases, such as Case X, in the list, the extreme dilatation of the vaginal walls will allow them to roll together in folds and block the view of the cervix. Under these circumstances two lateral retractors are required, as well as the other two. The injection is now made on each side through the vaginal wall, taking care that the direction of the needle is perpendicular to the base of the broad ligament. The syringe which I employ has a long, straight, rather thin, but rigid nozzle, so that when it is passed into the vagina the light is not excluded. The needle is about an inch in length and rather thicker than a hypodermic. Before the injection is made it should always be tested, because the quinin solution is very apt to cause corrosion, and it may then snap off short. If the patient has not taken an anesthetic she will hardly feel the prick of the needle, but as soon as the injection of quinin begins some pain is felt for a few minutes, the severity of which varies in different individuals. This might be obviated by the injection of eucain. The operation is now over. Before the patient is lifted into bed, the uterus should be well anteverted bimanually. A cup-and-stem India rubber pessary secured by tapes and a band around the waist, is inserted so as to keep the uterus well up until the effusion of lymph has taken place. It can be removed at the end of four or five days, as the uterus is then held up by the effusion. The strength of the sulphate of quinin solution is important. If too strong it will cause suppuration and if too weak it will not give sufficient stimulus to repair the ligaments. I began with a strength of 1 in 4, that is 1 grain of sulphate of quinin to 2 minims of acid sulphate dil. and 2 minims of water. This I found was a little too strong; I then tried 1 in 6, and this was rather too weak, and accounts for the recurrence of procidentia in Case 2. For the past twelve months I have used a solution of 1 in 5. The amount of this which is injected will vary of course according to the severity of the case; but the average amount which I use is 30 and 40 minims for each injection. There is always more reaction after a second injection than the first, although the amount of fluid injected is precisely the same. When more than one injection is required an interval of at least three weeks or a month should be allowed before the second is made. If done earlier there is likely to be a rise of temperature and more local disturbance than is required." He reports eighteen cases treated by this method.

Treatment of Uterine Cancer. Thomas More Madden.—Madden thinks that too much attention is now given to hysterectomy as a curative procedure in contradistinction to early amputation of the cancerous cervix. As regards the latter, he can speak from experience, and he thinks the results are, on the whole, more favorable. In a number of cases operated on by him there has been no recurrence after many years. As regards non-operative treatment, he has seen some little benefit from the electrolytic treatment suggested by Apostoli and others, but is not very much encouraged. In one case the actual cautery seemed to at least relieve. He has found, in cases where only relief from pain and prolongation of life is expected, some good from escharotics, chlorid of zinc being the most effective, safest and least painful. Other agents mentioned are celandin, local injection of absolute alcohol, and methylene blue. The last he has frequently employed as a local analgesic.

Syphilitic Factor in Diseases of Women. John A. Shaw-Mackenzie.—The author here calls attention to the syphilitic factor in female diseases, which is often unrecognized, and the value of mercurial treatment where there is a possibility of syphilitic infection.

Chronic Suppuration of Frontal Sinuses: Diagnosis and Treatment. Charters J. Symonds, E. J. Moure, Luc and others.—As regards diagnosis of frontal sinus suppuration, Symonds holds that, where polypi are numerous and pus abundant, the maxillary sinus is usually diseased; that when the frontal alone is involved, the polypi are fewer, the pus less, and rarely if ever foul; that in pure frontal cases, pus does not reappear on hanging the head forward; that in pure frontal cases with a wide middle meatus, granulations are confined to the anterior extremity of the middle turbinal, and the appearance of pus here with a free meatus is diagnostic; that in most cases a canula can be passed into the sinus, and the cavity washed out, though this may necessitate removal of the anterior extremity of the middle turbinal; that when this last observation can not be made, exploration must be conducted through the brow. Where suppuration in the nose and an external swelling exists, as in one of his cases, the diagnosis is obvious. When, again, as in three of his cases, suppuration exists in the nose, and there is an external and spontaneous opening, no doubt can exist. As regards treatment, he says that with simple cases where intranasal methods have failed, it will be enough to carefully wipe out the pus and clean the walls, insert iodoform and close the wound, the frontonasal aperture not being enlarged. Where polypi are found, the orifice should also be enlarged, and the wound then closed and intranasal irrigation employed for a few days. If this is impracticable, a silver or aluminum style must be introduced into the cavity, removing it for irrigation and finally withdrawing it permanently. Moure gives the following points as to diagnosis. The probable signs are: 1. Unilateral discharge of pus, seen on rhinoscopic examination after the antrum has been thoroughly cleaned by irrigation. 2. Growths in the upper part of the infundibulum in the direction of the nasofrontal canal, and dilatation of this canal giving free access to the sinus, supraorbital pains, spontaneous or on pressure. Certain signs are: 1. Temporary or permanent swelling over the frontal sinus, or the presence of a fistula in that region. 2. The flowing away of the pus after irrigation, when that is possible in the frontal sinus. 3. Darkness on transillumination, as compared with the opposite side—absence of the sinus, fortunately rare, also gives rise to this sign. The differential diagnosis between frontal empyema and that of the anterior ethmoidal cells may be difficult, but injection and transillumination will generally suffice to solve the difficulty, and it is worth remembering that ethmoidal growths are generally situated farther back than those coming from the frontal sinus. He also remarks that the treatment depends on whether the case is a simple mucous form or complicated with growths or fistula. If the antrum is involved, it should be first treated.

Lancet, October 14.

Typhoid Fever of Unusual Duration; Perforation of Cecum and Peritonitis; Operation; Recovery. Herbert P. Hawkin and E. O. Thurston.—The authors here report a case where the disease continued for 116 days or more. Another point of interest is the absence of the Widal reaction until nearly the close of the attack. The perforation was operated on on the forty-first day.

Indian Medical Gazette (Calcutta), September.

An Unpigmented Hemameba Found in Chronic Malaria. C. F. Fearnside.—The author published an account of an unpigmented protozoon found in chronic malaria in the prisoners of the Rajahmundri Central Jail, India, and describes and illustrates it in detail. It does not show pseudopodial movement but, when small, it oscillates incessantly. It might be mistaken for an ordinary air vacuole in a red cell, but for its constant movement and contractibility. He thinks it is not the same as the eye forms described by Ross, which were similarly found in several cases of malaria.

Bulletin de l'Academie de Medicine (Paris), Sept. 26, Oct. 3.

New Facts in Regard to Apparent Death. J. V. Laborde.—The official reports are given of fourteen "actual resurrections" accomplished this summer by means of rhythmic tractions of the tongue in the case of drowned persons who had been under water much longer than the extreme limit—six minutes—in which resuscitation is possible with any other method. No cases are cited except those in which the subjects had been under water ten to twenty minutes, or had been asphyxiated with illuminating gas "a long time." The length of time during which the vital properties may remain latent is therefore much longer than has been hitherto accepted and Laborde asserts that it is possible to restore life to persons apparently dead, by these tractions of the tongue kept up regularly and persistently for fifteen minutes to an hour, or if necessary for three hours, which he has established as the extreme limit of the duration of apparent death. He has invented an apparatus for life-saving stations, etc., which automatically makes the tractions, although it was not used in any of the cases related. Experiments on animals showed the blood to be full of carbon dioxid, but never coagulated and never below a certain temperature in this apparent death. The heart is only temporarily arrested, and slight tremulations in the myocardium can be distinguished. As respiration is reestablished the organ recommences beating with energy. The same phenomena probably occur in asphyxiated persons.

Revue de Chirurgie (Paris), August 10.

Imperforation of Rectum and Vagina. P. Berger.—These imperforations have only been noted associated in a few rare cases. In the observation related there was imperforatio of both anus and vagina, the rectum opening in the perineu The girl was first provided with an anus and several year later, when symptoms of retention of menstrual discharg became apparent, the vagina was opened. Both operatio were completely successful; the patient retains fecal matter even liquids and gas, and as far as the vagina is concern there is nothing now to prevent normal sexual life. Berge adds that accidents due to retention of menstrual blood are th only justifiable indication for operation in cases of absenc of development of the vagina. It can be said that up to th present time all attempts to create a vagina, when it did n exist, have been miserable failures. The autoplastic process devised for this purpose have all terminated lamentably, an the patients have always renounced the use of the artificial vagina after a long or shorter period. But the conditions are ntirely different when a vaginal ampulla already exists around the cervix as in this case, distended by accumulated menstrual blood. Although it was fully 6 cm. distant from the vulva, t was readily drawn down and sutured to the opening in the vulva.

Rhinoplastics on a Metallic Frame. C. Martin.—Since his method was proposed by the author, in 1889, he has more definitely established the conditions for success: 1. The pathologic process, syphilis of the nose, for example, must be enirely healed. 2. The flap taken from the side of the forehead nto the hair must be large enough to allow for subsequent reraction. 3. There must be a sufficiently solid subseptum for a firm support. 4. The surrounding bone must be healthy nough to afford a firm hold for the metal frame. Poncet's ase is still in perfect condition after thirteen years, and many other cases have proved equally successful when the bove conditions were observed. In one case the continuation f the morbid process caused the sinking of the entire nose evel with the face, the frame lodging in the fossæ but causing o disturbances.

To Find the Posterior Sacral Foramina. Meriel.—The urgeon will be much assisted in operating on the sacrum by he diagram outlined by Meriel as the average of twelve subects. A vertical line is drawn from the first sacral apophysis hrough the second, and 5 cm. farther. A horizontal line at ight angles to the vertical line, where it starts, at the first pophysis, carried 2 or 3 cm. to the right or left, ends exactly ver the first foramen. For the second foramen, the horizontal ine is carried in the same way from the second apophysis .5 cm. to the right or left. For the third, the horizontal line tarts from the vertical line 3.5 cm. below the second apohysis, and coincides with the center of the foramen 2 cm. rom the vertical line. The fourth foramen is found by drawing a horizontal line 2.5 cm. in length from the vertical line t a point 5 cm. below the second apophysis.

Semaine Medicale (Paris), October 11.

Bed Treatment of Acute Mental Disorders. P. Serieux. —"Clino-therapy or treating insane patients by keeping them n bed day and night with a few brief intervals, inaugurates new era in the history of medicine of the brain, the importnce of which can not be over-estimated." Repose in bed modrates and regulates the heart-beat and respiratory movements, aises the arterial pressure, lowers the central temperature, iminishes the destruction of the red corpuscles, retarding the rocesses of intracellular oxidation and hence of disassimation. It transforms our asylums from bedlams and prisons o orderly hospitals where patients are treated and cured, intead of merely incarcerated. The freedom from noise and xcitement in a room where all the patients are in bed, favors o a remarkable extent the rest needed by the overtaxed brain. n some asylums it is the rule to keep all newly-arrived paients in bed a few days. Massage, electricity and the permanent bath are valuable adjuvants as indicated. The room hould open on an enclosed veranda where the bed could be wheeled as desired. No force of any kind should be used, although a hypnotic may be required at first until the patient gets the habit of remaining in bed. A mattress on the floor with padded sides about three feet high may be required at rst for very restless patients. As improvement progresses he patients can sit up and stroll in the garden more and more. Two months is the extreme limit for this treatment. t is particularly effectual in soothing and curing acute mental isorders of recent origin and acute stages of chronic affecons, delirium from morphin, alcohol, epilepsy, etc. If the atient does not wish to remain in bed he should be persuaded hat he is sick, that rest is necessary, or divert his attention with a little food or a newspaper. Frequently the presence f the nurse seated at the bedside, holding his hand, will bansh the idea of getting up. If he insists, allow it until the cute restless stage is past and then coax him back to bed. he patients are actually in bed, not merely sitting up, and nly get up at first for half an hour in the morning to go to he toilet-room or for a few minutes in the garden.

Archiv f. Gynækologie (Berlin), lix, 1.

Failures of Operative Treatment of Tuberculosis of Peritoneum. O. Wunderlich. Four patients out of 10 thus operated on, died within three months; 3 grew worse and only 3 were found in good general and local health when examined later. Of the five hundred cases of tuberculosis of the peritoneum on record, there was effusion in 68.8 per cent.; fibrous adherences in 27.2 and suppuration in 4 per cent. Clinical recovery—three years of observation at least—occurred in 23.3 per cent. of the cases with ascites, and in 9.8 per cent. with those of adherences. Nine died out of 20 cases with suppuration. Anatomic recovery was established in 19.

Berliner Klinische Wochenschrift, October 2.

Five Weeks of Profuse Discharge of Cerebrospinal Fluid Without Cerebral Phenomena. A. Lucae.—In operating for a chronic otitis of the middle ear, on a boy of 17, with caries of the bony wall, and removing a sequester, the cerebrospinal fluid gushed out in such quantities that the operation had to be postponed for five weeks. There was no fever, no vertigo, no alteration in the pulse and recovery was uneventful, although slow. Evidently there had been an excessive production of the fluid.

Periodic Swelling of Parotis. G. Freudenthal.—A young woman with no indications of nervous trouble has been affected for years with an occasional swelling of the parotid gland, reaching its maximum in a few minutes and retrogressing in half an hour; no itching, no increased salivary secretion. Her husband is a neurasthenic and he also is frequently affected with a similar swelling between the ear and lower jaw which spontaneously appears and disappears in a day or so. Hysteric contagion is the probable etiology in this case.

Deutsche Medicinische Wochenschrift (Berlin), October 12.

Experimental Research in Intestinal Anastomosis. M. Katzenstein.—Numerous tests are described in which the intestines of rabbits were divided and then united with a very few stitches, the cut ends strewn with "gluten casein," which induced numerous and solid adherences to form, rendering the union perfect and water-tight in a remarkably short space of time. This chemotactic action of gluten-casein can be utilized in a number of ways. The adherences produced differ from those of ordinary peritonitis and are ideal in every respect from a surgical standpoint.

Multiple Cystic Degeneration of Kidneys and Liver. Steiner.—There is projection below the ribs in a most remarkable manner with this affection, the diameter much larger than the diameter of the thorax, and knobby protuberances are felt in the liver and throughout the region where we are accustomed to palpate the kidneys, extending up under the costal arch and down into the small pelvis, not painful on palpation. Steiner has had occasion to observe two advanced cases and a number of others, all belonging to two families. He therefore calls attention to its essentially hereditary character. The tumors are congenital and can be distinguished by the age of 10, but only commence to develop alarmingly in middle life. They do not commence simultaneously on both sides; one side may be very much earlier than the other, and mistaken for a malignant neoplasm. The distinction made by anatomists between congenital and acquired tumors is refuted by these facts, but Cohnheim's theory in regard to the congenital foundation of certain tumors is strengthened. The affection is progressive and we have no means of arresting it. Therapeutics must be limited to the same internal treatment as for shrivelled kidney. Incision is inadvisable, as it would not reach all the cysts, and dangerous on account of the precarious condition of patients. There is also liability of a fistula which would prove an unnecessary annoyance. Cysts were found in the liver in eighteen out of sixty-three cases observed by Lejar.

Zeitschrift f. Diaet. u. Phys. Therapie, iii, 4.

Apparatus for Control of Radiographs. Hans Virchow. —Two identical, parallel, adjustable frames of lattice work are arranged with the distance between them corresponding to the thickness of the body being radiographed. The difference between the shadow cast by each will prove a valuable assistance in correctly appreciating the variations in the depth of the shadows and the enlargement due to distance from the plate.

Fat Diet and Motility of Stomach. H. Strauss.—The conclusions of much experimental and clinical research in this line are that the ingestion of large amounts of fat within certain limits and with appropriate selection of the fat—cream—does not unfavorably affect the motility of the stomach beyond what is compensated by the diminished volume with the increased calories of the fat in comparison to albumin and carbohydrates.

Policlinico, September 1.

Explanation of Cure of Tuberculous Peritonitis by Laparotomy. U. Arcangeli.—It seems to be established that laparotomy confers on the subject a sort of aptitude to attenuate or destroy the Koch bacillus not only in tuberculosis lesions of the peritoneum but also of those of the abdominal viscera and even extra-abdominal tuberculous foci, that is, it produces a more or less complete immunization against these microbes. Arguments in favor of this assumption are the presence of tuberculin in the serum of tuberculous subjects—Devoe—the bactericidal and agglutinating properties of their serous effusions, and the success obtained by Gilbert and Scarpa with hypodermic injections of 2 to 10 c.c. of pleuritic serous fluid in cases of acute serofibrinous pleurisy, the serum derived from the patient himself. Arcangeli has applied this autoserous fluid treatment to five cases of tuberculous peritonitis with the result of curing two. The diuresis was very much increased; the ascites diminished and complete recovery followed the evacuation of a portion of the peritoneal effusion by simple puncture. He adds these facts to the better results of laparotomy without irrigation and drainage, and concludes that the benefit of laparotomy in these cases is due to the autoabsorption: absorption of the fluid effusion, caseous matters and tubercle substance. The autoserum method failed in two of the patients and was doubtful in a third, inducing in one a pleuritic effusion with fever. He, therefore, considers it dangerous on account of the possibly noxious properties of the fluid and not destined to supplant laparotomy, although it has contributed to explain the action of the latter.

Societies.

COMING MEETINGS.

Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, November 14–16.

Oklahoma Territory Medical Society, Guthrie, November 16.

Southern Surgical and Gynecological Association, New Orleans, La., December 5–7.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27–28.

Indian Territory Medical Association, Wagoner, December.

Military Tract Medical Association.—This Association has just closed its sixtieth annual session, at Bushnell, Ill. The newly elected officers are: president, E. M. Sutton, Peoria; secretary and treasurer, C. B. Horrell, Galesburg. Kewanee is to be the next meeting-place.

Chicago Gynecological Society.—The following officers were elected at the last meeting of this Society: president, T. J. Watkins; vice-presidents, Reuben Peterson and L. Frankenthal; treasurer, A. H. Foster; editor, Charles S. Bacon; pathologist, Emil Ries; secretary, W. H. Rumpf.

Medical Society of Virginia.—The thirtieth annual session of this Society was held October 24-26, in Richmond, Va. One of the principal topics on the program was "School Hygiene," the papers thereon being replete with suggestions for legislative correction of the existing conditions in the state. Besides a number of papers on other topics, there were clinics at the Medical College of Virginia and the University College of Medicine.

New Haven County Medical Association.—At the semiannual meeting of this association, New Haven, Conn., recently, officers were elected as follows: president, Carl E. Munger, Waterbury; vice-president, H. S. Swain, New Haven; member to fill the vacancy on the executive committee, G. Eliot, New Haven, to succeed himself. The next meeting will be held in New Haven in April, 1900.

Franklin County Medical Society.—At the meeting of this Society, in Chambersburg, Pa., October 17, the following officers were elected: president, H. C. Divelbiss, Chambersburg; vice-presidents, A. Barr Snively, Waynesboro, J. C. corresponding secretary, H. X. Bonbrake, Chambersburg;

corresponding secretary, H. X. Bombrake, Chambersburg;

treasurer, David McClay, Chambersburg; censor, R. W. Ramsey, Chambersburg.

Tri-State Medical Society.—The eleventh annual session of this Society—the members being Tennessee, Georgia and Alabama physicians—closed at Chattanooga, Tenn., October 26. In addition to the scientific sessions, which were attended by the students of Chattanooga Medical College, in a body, the Society was tendered a "smoker and Dutch lunch," Dr. Cooper Holtzclaw of Chattanooga as toastmaster.

Tri-State Medical Association.—Mississippi, Arkansas and Tennessee physicians comprise the membership of this Association, which will meet in Memphis, Tenn., November 14, 15 and 16. It is expected that this meeting will be without a peer, from the standpoint of the number of physicians in attendance and the full program of interesting papers to be presented. Titles of papers should be sent to the secretary, Dr. Richard McKinney, Memphis, who will gladly furnish any desired information that he may be in a position to supply.

Wayne County Medical Society.—The physicians of Detroit, Mich., are taking a hand in local politics. Capt. A. E. Stewart, the republican nominee for mayor, is accused by certain of the prominent doctors of being unfriendly to the medical profession and of favoring "Christian Science." At the close of the regular meeting of this Society, October 26, this question was brought up for discussion, and for two hours a heated debate was held. A motion was made that a committee be appointed to investigate the position which Captain Stewart took on the late medical bill proposition, but the motion was lost.

Medical Tribunal.—The fifth annual session of the Medical Tribunal, which consists of a union meeting of the Eastern Ohio Medical Association, the Union Medical Association of Columbiana and adjoining counties, and the Union Medical Association of Northeastern Ohio, was held at Alliance, Ohio, recently. Resolutions on the death of Dr. E. W. Brooke, of Ellsworth, the president of the Association, were adopted and a number of addresses on subjects of interest to the profession delivered. Officers for the ensuing year will be: president, J. H. Purviance, Steubenville; secretary, M. J. Lichty, Alliance; vice-presidents, the presidents of the three sub-societies.

New York State Medical Association.

New York City, Oct. 24-26, 1899.

INFLUENCE OF MEDICAL PRACTITIONER ON MEDICAL PROFESSION.

Dr. Joseph D. Bryant, president, delivered the opening address, taking the above subject. He sketched the history of the practice of medicine from the time when savages, out of humane motives, provided relief for their fellows to the time when priests took up the profession of the mystic art, and thence to the period when medical men became gradually recognized as a class by themselves. He showed the benefits the profession had received from the habit of meeting together, exchanging information, and laying down rules for the guidance of their conduct, and urged all members of the profession to advance the interests of their various organizations, which tended to elevate the profession and advance the knowledge of medical science.

USE OF ALCOHOL AS A STIMULANT AND TONIC.

Dr. Thomas J. Hillis, New York City, opened with a discussion of the general use of alcohol as a beverage and its value as food. Then he passed in review the methods of the enemies of alcohol, who regarded it as a poison to the human system in doses large or small. Its careless and untimely use is often the cause of its want of fruitfulness in the sick-room, and its calamitous results on the public health have also to be considered. Still, the conclusions to which he came were that alcohol was the sheet-anchor of the intelligent and conscientious physician, when the heart is handicapped by disease, and as such is the drug par excellence in the whole field of therapeutics, and the one best able to tide it over a crisis in certain pulmonary and other conditions common to the bodily condition. In the course of his paper the author joined issue with temperance reformers, who consisted in large measure of clergymen, who knew too little, and of professional lecturers, who frequently knew too nuch, of the effects of alcohol. Alcohol differs from all other ubstances in that it is by turns a food, a stimulant, a tonic, nd a poison. Two ounces of whisky diluted with an equal mount of water has a value in certain circumstances that no ther substance possesses.

A lively discussion followed the reading of the paper, most f the speakers taking a view somewhat different from that of Dr. Hillis, and even those who were disposed to agree with him n part being disinclined to subscribe to all his expressions of pinion.

MEDICAL EXPERT TESTIMONY.

The evening session was given up to the discussion of the resent method of securing medical expert evidence. The subect was introduced by the Hon. Willard Bartlett, justice of he supreme court, appellate division; and the other speakers vere all members of the legal profession, the only medical man, Dr. Theron A. Wales, whose name was on the syllabus, being ept off by circumstances to so late an hour that he resolved o postpone his observations till some more opportune occasion. The lawyers, however, though they had the floor to themselves, vere by no means unanimous. In fact, they differed as if they ad been doctors. Justice Bartlett seemed to think that the natter lay entirely in the hands of the medical profession to emedy any grievances of which they complained. The presnt system is the growth of ages, and the best method that awyers have so far been able to devise for sifting the truth. There is no probability of either the bench or the bar agreeing o any radical change, and least of all to that which some docors most desire, the abolition of the right of cross-examinaion. Medical men are like many other classes of experts: ritnesses who, in the most honest way possible, often differ mong themselves, and from whom a general result satisfacory to the lay mind can only be extracted by means of crossxamination. He does not approve of the discredit which some udges are in the habit of casting on experts; but suggested hat the disfavor into which experts have fallen is largely due o the practice of medical men and other professional men actng in the dual capacity of witness and adviser to the counsel n the side on which he is called. This is one of the matters in hich such a body as the medical profession can perform a useil service by requiring that none of their members appear in he two rôles in the same case though recognizing their right o appear as medical advisers in cases in which they are not oncerned as witnesses.

The appointment of a separate body of experts to hear and ecide on scientific evidence was recommended by one of the ubsequent speakers, but it did not meet with much favor.

NEED OF STATE AID IN TREATMENT OF TUBERCULOSIS.

Dr. George W. Goler, Rochester, strongly insisted on this id and estimated that about 50,000 persons are continually uffering from consumption in New York State. A large proortion of these could be cured if attended to in time, while the rovision of state institutions would put a stop to an enormous mount of infection which is now being spread broadcast by he sufferers.

SANITARIUM TREATMENT AT HOME FOR CONSUMPTIVES.

Dr. S. A. Knopf, New York City, followed with a paper on his subject. After discussion it was formally resolved that was the duty, as it was to the interest, of the State to proide an institution for the treatment of incipient cases of uberculosis, and a committee was appointed to prepare a aflet for distribution among medical men, boards of health, nd others, showing how checks could be put on the spread of nfection, and also giving advice as to the best treatment of he disease in its earlier stages.

MORPHINISM AMONG PHYSICIANS.

Dr. T. D. Crothers, Hartford, Conn., read a paper on this ubject, in some quarters creating something approaching a ensation. The author described morphinism as the modern isease of physicians, and said it is estimated that 10 per cent. all medical men use morphia. The causes are complex and me from conditions of living and surroundings, and neurotic efects, inherited or acquired. The defective teaching and xt-books are contributory causes. The injury to the brain nd nerve-centers is concealed, cumulative and very grave. ersonal self-treatment is disastrous. Profound physical and sychic poisoning, which is not cured by the removal of the drug alone, is present. Often final restoration demands the withdrawal of the medical man from the profession.

PROPOSED NATIONAL BUREAU OF PUBLIC HEALTH.

A committee reported on the steps that had been taken in conjunction with the American Medical Association to bring about legislation to establish a national bureau of public health. The committee was thanked for its labors, and reappointed, with instructions to press the matter.

Officers were elected as noted in our "Medical News." (See Journal, October 28, p. 1111.)

ADVANCE OF OUR KNOWLEDGE OF TYPHOID FEVER.

Dr. Herman M. Biggs, head of the bacteriological department of the City of New York, took this as his subject, and in view of the terrible devastation caused by the disease among the troops in the recent war, was compelled to admit that much is yet to be learned. He recommended the teaching of the principles of hygiene in the schools, the holding out of better inducements to medical men to look after the public health, and the adoption of more efficient measures for preventing infection.

Dr. W. H. Park, New York City, also of the bacteriological laboratory, read a paper dealing with the bacteriology of the disease.

Dr. William Osler, Baltimore, pleaded guilty of the indictment against the medical profession for its failure to deal adequately with the disease when it broke out in the army; but he desired to place the responsibility on the proper shoulders. Those principally responsible were not the doctors who had been called on to grapple with the disease, but their teachers who had turned them out of the schools without giving them proper instruction on the nature of fevers. He ridiculed the practice so common in and about New York City, of diagnosing fevers as malarial, and said there were two works which every doctor should have at his side—those of Keen and Hare. Instead of proceeding on the Anglo-Saxon principle of considering every fever innocent of typhoid until it was proved guilty, they would do well to try the Gallic plan of considering every fever guilty until it proved that it was innocent of the charge of being typhoid.

(To be Continued.)

Vermont State Medical Society.

Abstract of Proceedings of the Eighty-sixth Annual Meeting, Held in Burlington, Vt., Oct. 13, and 14, 1899.

First Day—Afternoon Session.

ACONITIN.

Dr. F. R. Stoddard of Shelburne read a paper with this title. After giving the origin and forms of aconitin, he stated that tingling or numbness is the first physiologic manifestation, showing that the system is under the influence of the drug, and no danger can arise in treating adults if the drug is withdrawn when the patient perceives this sensation. This tingling sensation is produced by paralysis of the end organs of the sensory nerve-fibers, and is utilized in the treatment of neuralgia, hyperesthesia, sprains and contusions. In treating stubborn neuralgias it is necessary, before relief can be obtained, to push the drug in increasing doses, to the full physiologic effect.

When aconitin, amorphous, gr. 1/134, is administered every half hour, the frequency of the pulse and respirations is reduced, the arterioles are dilated, the capillaries are flushed, the blood-pressure is lowered, and all the secretions are augmented. The latter effect is shown by the moistened tongue and skin, the increased flow of urine, and if the dose is continued, by diarrhea and the vomiting of mucus.

Aconitin may be successfully used in treating all fevers, irrespective of their cause. It is not only an excellent febrifuge, but is without exception the best antipyretic known. In scarlet fever, measles, diphtheria, articular and muscular rheumatism, erysipelas and meningitis, it will give better satisfaction in the reduction of fever and in relief of pain than any other antipyretic. In asthenic cases, it should be given in combination with strychnin and digitalin.

DISADVANTAGES OF COUNTRY PRACTICE.

Dr. W. S. May of Underhill, vice-president, presented a paper with the above title. He pointed out that the average country practitioner is too often unmindful of his own needs and fails to realize the nature of the obligations which his brother practitioner expects him to fulfill. Interchange of thought and comparison of method is too often neglected. The country physician can hardly be said to occupy an enviable position, and yet there are factors that make up his professional life, that he would hesitate to exchange with his supposedly more favored city brother. The question in country places is often not how much can I learn, but how much can I do? Too often in the practice of medicine, as in other vocations, environment is responsible for the character of the individual, and unless ours is possessed of more than an average personal influence, the patient becomes the adviser, dictates the treatment and retains the fee. Country communities offer little inducement to the strictly modern practitioner, and to such encouragement is lacking if located within a few miles of a hospital. His education and ability may be unquestioned, and yet the hospital attracts many desirable patients, while he ekes out an unsatisfactory existence among the few who do not offer substantial appreciation. For this condition there is at present no relief. Too many country physicians are mere automatons, doing the bidding of pharmaceutic and manufacturing chemists, whose specialties are the sole materia medica, and whose therapeutics coincide with the monographs with which their table is gratuitously supplied. The country doctor seldom adds anything to current medical literature. His vocation has a bread-and-butter interest and he spends most of his time in doing and not in thinking.

LIGATURES.

Dr. L. M. Bingham of Burlington read a paper on this subject. In speaking of asepsis and sepsis in general, he said that dangers from the infective process in most cases depend on four conditions: 1. Individual ability to resist infections. 2. Nature of the operation. 3. Perfection of technic. 4. character of micro-organisms. The first three we have under observation, but the character of micro-organisms previous to and during operation, we are in most instances unable to determine. Speedy work with the microscope, during the operation, where abscesses or abnormal fluids are found, is the only method by which we can fully determine the danger of infection.

During his service at the Mary Fletcher Hospital, from April 1 to July 1, 1899, he had about eighty operative cases, including several hysterectomies, ovariotomies, etc., and all pedicles, arteries and tissues needing ligatures were tied with sterile catgut, and all cases made good and speedy recovery without symptoms of sepsis. The catgut used was of German manufacture, and in no instance was there even a suspicion that it did not meet all required indications. All ligatures were prepared by immersion for twelve or fourteen days, in oil of juniper, then for the same period in ether, and finally by boiling in absolute alcohol for twenty or thirty minutes. We should never prepare large quantities at a time.

Small ground-glass-stoppered salt-mouth vials are most convenient for preparing and preserving the ligatures, and the vial should contain sufficient absolute alcohol to keep the gut covered. For the boiling he places the vial in a water-bath; the temperature used is 172 F.

All ligatures should be tested before use, and a second one should be placed on pedicles and important vessels, while we should tie vessels separately, rather than en masse. Silk is convenient for ligatures, and may be sterilized at the time of operation, by boiling in water. It may be kept in alcohol, in the same manner as the catgut, but should be washed in sterile water before using, as its meshes hold a large quantity of alcohol, which is injurious to the tissues.

DIAGNOSIS AND TREATMENT OF PERFORATED GASTRIC ULCER, WITH ILLUSTRATIVE CASES.

Dr. Maurice H. Richardson of Boston presented a paper with this title. From his personal experience this lesion is extremely rare. He had operated in but two cases, although he had seen a few others in consultation, in all not more than ten. The infrequent occurrence of perforated gastric ulcer is seen in the records of the Massachusetts General Hospital, where in the ten years from 1888 to 1898, but six cases of perforation occurred.

Though from its infrequency, perhaps, unimportant in comparison with other abdominal emergencies like appendicitis, extrauterine pregnancy, and the like, from its almost invariable fatality it exceeds them in the importance of early diagnosis and surgical intervention. Practically all cases die if unrelieved. The success of intervention depends on the promptness with which it is begun.

Two classes of cases are met with, clinically, the one comprising the perforations occurring during the course of well-recognized gastric ulcer, the other the sudden perforations that take place in those in apparently perfect health. Little need be said as to the diagnosis in the suspected perforations of known ulcers, though the symptoms are the same as in the unsuspected cases.

The first and most important sign of perforation is pain in the upper abdomen, which is described as sudden, violent and shooting in various directions. This symptom alone, when supported by only slight previous disturbances in the stomach, makes the diagnosis of perforation probable. When to pain are added the symptoms of peritoneal shock, tenderness and muscular rigidity, the probability of septic extravasation is great, and its source probably the stomach. A previous history of ulcer makes the diagnosis certain. Without a previous history it is impossible to discriminate between the perforation of a gastric ulcer, an acute pancreatitis and some other rare septic lesions. The symptoms demand exploration, whatever the diagnosis, and except in the rarest instances the surgeon is guided directly to the seat of the extravasation.

In perforation of gastric ulcer, infecting the general peritoneal cavity, the abdomen should be opened as soon as possible, the perforation should be closed and the peritoneal cavity be cleansed and drained. The earlier the intervention, the more favorable the cure.

Several cases were detailed as throwing light upon the subject.

Perforated gastric ulcer is so quickly fatal that there is no justification whatever in delay in the application of surgical measures, especially in view of experience which shows that there is no hope in medical treatment.

IMPORTANCE OF OPERATIVE TREATMENT OF NOSE AND THROAT.

Dr. C. A. Crainton of St. Johnsbury read a paper in which he said that the family physician is daily called on to diagnose and treat acute and chronic diseases of these parts, but comparatively seldom deems operative procedure necessary. In cases deemed trivial, a thorough examination would often reveal the absence of polypi, hypertrophy of turbinated bones enlarged tonsils, etc. All operative procedures on the nose and throat may be said to be for the relief of such obstructions. Who of us has not often noticed the vacant-looking child with adenoids and enlarged tonsils, and seen demonstrated time and again, the change from a dull and apparently unintelligent to a bright and vivacious being, soon after the removal of adenoids and tonsils!

The general practitioner ought to be as well equipped to do the minor work on the nose and throat as on any other portion of the body.

In conclusion the author summarized as follows: 1. Examine every patient for nose and throat lesion and, if such is found and is producing obstruction or neurosis, operate. Use as far as possible, in hypertrophies, the galvanocautery outfit —it is aseptic, bloodless and effective. 2. Operate on all cases of hypertrophied tonsils and adenoids in children, using either a tonsillotome or galvanocautery snare, and Gottstein's curettes. 3. Remove all polypi, preferably with a galvanocautery snare. Always clip an elongated uvula; it can do no harm and oftentimes works a miracle. 4. Always remove benign neoplasms, such as papillomata, adenomata and fibromata. Angiomata and osteomata must at times be expected. 5. Operative treatment of malignant disease of the nose and throat, carcinomata and sarcomata must depend largely on their size and location and the condition of the patient. 6. In hay-fever and asthma, always examine the nose and throat. If enlargements are found, remove them; if rhinitis, treat it. 7. Urge on the young and old the importance of caring for the nose and throat. If this is done there will be far less call for operative treatment.

FIRST DAY.—EVENING SESSION.

NEURASTHENIA.

Dr. S. E. Lawton of Brattleboro presented his annual address, on this subject. He said that neurasthenia is a morbid condition of the nervous system, characterized by loss of resistance, increased irritability and weakness which may vary from apparent health to severe and distinct nervous disease.

It occurs most frequently between the ages of 18 and 50, equally frequent in men and women and is specially prevalent in the Northern and Eastern states. The symptoms are so numerous and diversified that classification is difficult. The disease is distinctly hereditary, in that it occurs most frequently in individuals of neurotic type.

He describes the symptoms of neurasthenia in detail, including instability of the pupil, quivering of the eyelids when closed, various vasomotor disturbances, disturbed heart's action, variable pulse, shallow respirations, peripheral numbness and hyperesthesia, burning sensations, nervous chills, mental irritability and depression, morbid fears, disturbances of sleep, especially insomnia, spinal irritation, heaviness and aching of the loins, vertigo, disturbed sexual functions, seminal emissions, muscular cramps, fibrillary muscular contractions, intercostal neuralgia, especially in the left side, constipation, flatulency, etc.

In reviewing the foregoing symptoms, one can not help being impressed with the fact that a large percentage are physiologic and not at all incompatible with health, but when they become frequent and severe and are associated with more distinct morbid phenomena, characteristic of the disorder under consideration, their significance and importance can not fail to be recognized.

The prognosis in every case of neurasthenia is good.

In the treatment it is necessary to secure the entire confidence of the patient at the outset. He should be given a careful and painstaking examination, including every organ of the body, and convinced that he will not drift into insanity, that he is not a victim of organic disease, that he is intact but out of joint, and requires a splint to his nerves and blood-vessels, and a prop to his weak extremities, that an ultimate cure is only a question of time, but that under the most favorable circumstances, a series of ups and downs must be anticipated, during which, one symptom after another will quietly disappear until all are gone. Turn his thought to something new, arouse his interest, grasp every opportunity to revert the subtle influence of mind over body, and at every interview give him some new prop on which to lean. Dominate him by the force of your personality and the compass of your resources and you will usually be surprised at the happy results.

Change is rest in the majority of cases. Isolation is necessary only in extreme cases. Traveling for health, "much as one would break stone for a living," has nothing to commend it. Douches to the spine and neck, followed by friction, are valuable, as are applications of electricity, both galvanic and static. A nitrogenous diet, with more or less fat and green vegetables is best adapted to neurasthenic patients, while the majority should be urged to drink a glass of water at mealtime and a glass or two between meals.

Chloric ether, sulfonal, trional and paraldehyde are the best hypnotics. Chloral is dangerous. Anemic cases require quinin, arsenic, alkaline hypophosphites, cod-liver oil, mineral acids, and in some cases strychnin. In hyperemic cases, sodium bromid with ergot is a preparation of value. Examine the patient often in order to keep him impressed. In conclusion, do not forget that the physician himself, his psychic influence, his ability to infuse hope and inspire confidence, his oft-repeated reassurances and crumbs of comfort, and even his solicitous oversight, are after all the most important factors and stand head and shoulders above any other measures.

(To be Continued.)

Chicago Academy of Medicine.

Sept. 22, 1899.

UNTOWARD EFFECTS OF UROTROPIN.

Dr. William L. Baum read a paper on this subject, in part as follows: As stated to the Academy half a decade ago, that prediction may be made with considerable accuracy as to the untoward effects of any new drug on learning its action, knowing the origin chiefly affected by the ordinary action of the drug, and the method of the drug excretion. All matter which enters the economy, whether through the medium of the alimentary canal, or through the external integument, causes certain changes to take place either in the nature of an excitant to the peripheral nerves, causing local disturbance and sometimes reflex nervous effects which influence the normal nutrition of the parts, or the matter is carried by the circulation to those organs containing cells for which it has a peculiar chemical or physical affinity. Taking into consideration, therefore, a temporary or permanent change in the individual cell, it is readily seen how the ordinary physiologic action of the drug rapidly becomes a perverted one. The individual diathesis is an important factor in the etiology of these effects. If, as Bouchard remarks, nerve reaction, by corrupting for the moment nutrition, can produce the morbid opportunity, it may also modify nutrition in a lasting manner and develop diathesis. The most potent remedies are, as Kiernan has shown, most fertile in untoward effects. A drug of potent physiologic action must of necessity try more severely inherited and acquired deficiencies of constitution than an inert drug. The excessive strain on inhibitions weakened by acquired or inherited taint gives an undue sway to inhibited centers. From the relation of the skin to the other excretory organs and to the regulation of temperature, it becomes obvious, on these principles, that drugs given to affect the urinary organs will at times produce untoward effects through disturbance of the heat regulating apparatus.

As Ott remarks, fever, as a rule, is primarily set up by an increase of heat production beyond that of heat dissipation, an agent from within or without deranging the harmony of the thermotaxic, thermogenetic, and thermolytic apparatuses, by which, in the initial stage, the metabolism of the tissues is usually temporarily increased, this increment being greater than that generated on a restricted amount of nutrition. Once established, the fever continues, not from excessive production, but from an altered relation between heat production and heat dissipation. Fever is not a fire kept up by an excessive oxidation of the constituents of the economy. Thus, heat production may really be subnormal, yet the bodily temperature may be at high fever heat. The thermotaxic centers of the brain maintain the balance between heat production and heat dissipation, so as to keep the temperature at 98.4 F. In fever these thermotaxic centers are so disordered that it is mainly the basal thermotaxic which are affected, that the relation between heat production and heat dissipation is so disturbed that a higher temperature results. Since the peripheral terminations of the sensory nerves influence a thermolytic center, by reflex action they constitute important factors in heat regulation.

Under the title "urotropin"—chemically hexamethylentebramin—has been introduced a new agent which, as its chemical composition indicates, would prove of value as an analgesic and as an hypnotic, as well as an antiseptic. It has been employed in genito-urinary therapy for the latter indication, and has done good. As might have been anticipated, it has antipyretic powers, and these have naturally shown as untoward effects, a tendency to derange heat regulation. Three cases were here given as illustration of this.

Dr. James G. Kiernan.—If I understand the chemical composition of urotropin aright, it belongs to the amids. These all have a sedative action, as do nearly all antipyretic synthetic drugs. Even those that are not synthetic have a peculiar tendency to rearrange the heat regulations—which have been outlined by Dr. Baum—and produce conditions of this kind. It may be new to some Fellows and members of the Academy, but the fact of the matter is that probably quinin or cinchonium started homeopathy. Hahnemann was a neurotic, or, in modern phraseology, a degenerate, with an unstable heat regulating apparatus. He tried cinchona bark on himself, in stimulant doses. In precisely that class of beings it produces symptoms similar to the chill, etc., with the subsequent rise in temperature, of malaria. As malaria had produced these conditions, Hahnemann grasped at this beautiful generalization, combined it with mesmerism, and produced the modern high potency theories. The truth is, so far as I have been able to determine, any of the antipyretics, like the synthetic hypnotics, sulphonal, chloral and trional, etc., especially the amids, will produce just the condition Dr. Baum has found with urotropin. Furthermore, it seems apparent that without unduly straining the relationship, it is safe to draw the inference that if an amid given for the purpose Dr. Baum has mentioned produces the untoward effects which he has described, it is safe to administer that amid as a hypnotic. I do not think, from what I know of Dr. Knast's results in connection with the hypnotic effects of urotropin in the psychoses, that they were due to any effects on the bladder, but rather to this effect on the general condition of the economy.

Prof. C. S. Halberg—This new synthetic—urotropin—is little used as yet, but if I remember rightly, it is an amine and not an amid, which would further clinch the evidence submitted by Dr. Kiernan in relation to quinin. I believe it is made from formalin and ammonia. Pharmacists do not know very much about the physiologic effects, but anything that is made from formalin we would consider dangerous for use internally, even though formalin and ammonia formed a compound which may lose the properties of formalin. The ammonia, as you know, is a weak base. It is quite likely that this highly complex compound will be decomposed according to the particular kind of reaction that presents itself in the urinary tract, and it is not quite possible that it may split into some compound similar to the formaldehyde from which it is made? If that be the case, I think we should not have to go far in order to get light on the suggestion as to all kinds of untoward effects. We know formaldehyde is exceedingly irritating, and it is so disagreeable, even when locally applied, that it has to be used with care. We know it is used in the minutest quantities as a preservative of milk. It is said to be dangerous, and is not recommended by the best authorities, although it takes but little to preserve milk.

Dr. Baum—Relative to the remark of Professor Halberg, about the drug splitting up into formalin in the bladder, the toxic effect from the splitting up of a compound in the bladder itself would be *nil*, unless there was erosion of the bladder wall. The compound must split up somewhat higher than the urinary tract, where there is some erosion or involvement of the kidney. That it is a rather stable drug is shown in the fact that while extensively used here and abroad, it has seemingly not exercised other untoward actions on the average patient.

(To be continued.)

Denver and Arapahoe Medical Society.

Oct. 10, 1899.

SOME CONSIDERATIONS REGARDING CLIMATIC TREATMENT OF TUBERCULOSIS.

Dr. F. E. Waxham read a paper on this subject, and said in part: There is no climate suitable to all cases any more than one medicine is suitable to all diseases. "Send your tubercular cases westward and send them early." The advice to seek health in a change of climate should be the first advice given and not the last resort after months of futile treatment. The secret of the success lies in the early diagnosis of the disease and in early seeking a change of climate. The idea that tubercular individuals should be excluded from this state is being promulgated to a certain extent. It undoubtedly is true that cases of tuberculosis developing in Colorado are more frequently met with than formerly, but it must be remembered that the population is much greater. It may be a question whether these spontaneous cases are more common in proportion to the population than formerly, but if so we should insist on more thorough and vigorous measures for prevention. and not on restriction. Prolonged life and the blessing of restored health should not and must not be denied by crazy legislation inspired by fear and cowardice. To deny health and strength and life to those in search of it, for fear perchance that we may contract their disease, is selfish, unscientific and unworthy of a Christian people. Undoubtedly the reason that inspired the prejudice in California against consumptives has been the large number of cases that have sought that climate in the very last stages, and without adequate means of support. Let us decry against the custom of sending invalids in the last stages of consumption from the comforts of home and friends to die in a distant land among strangers.

Rest and increased nourishment are two valuable features that should not be overlooked. Too frequently patients are advised to take little or no medicine upon arriving in this country, but to take abundant exercise. This is often a great mistake. Invalids, instead of exercising when first coming to a high altitude, should take long hours of rest. The greatest factors in the cure of tuberculosis are rest, nourishment, altitude and sunshine.

Dr. Tyler, secretary of the Colorado State Board of Health, approved of Dr. Waxham's stand with reference to rumors of quarantine against consumptives. He thinks the question resolves itself into finding out whether the milk and the meat supplied to the large cities is free from infection, and also the disposition of the sputum.

Dr. Sherman Williams, city bacteriologist of Denver, said that he has carried on an extensive correspondence, in behalf of the health department, with persons who have studied the question of the disposal of sputum, and the result is that the department has under consideration a plan of placing cuspidors in the down-town streets. Aside from its hygienic value, it will certainly serve as an educational factor.

MASTOID OPERATIONS.

Dr. W. F. Cole of Waco, Texas, performs mastoid operations by means of the dental engine, and uses cocain as an anesthetic. The modus operandi is certainly the simplest, if compared with the usual so-called, radical operation. The person to be operated on sits upright in a chair. A sterilized cocain solution is injected beneath the skin where the operation is to be done. He attaches a cutting trephine to the engine, and cuts out a plug of skin down to the bone. He removes the plug of skin and applies cotton saturated with chromic acid with considerable pressure. The bone is cleared of the muscular tissue by means of an electric cautery. He then perforates the outer table with a boring drill, making a small opening, after which he uses a large dental burr. The whole operation lasts less than ten minutes, and is not more painful than ordinary dental work. This operation has the advantage of doing no unnecessary damage to any part of the ear, and no unsightly scar is left.

Philadelphia County Medical Society.

Oct. 11, 1899.

GALL-STONE CREPITUS.

Dr. J. M. Anders read a paper on gall-stone crepitus and auscultatory palpation, with illustrative cases. In some cases he has been able to elicit gall-stone crepitus, especially where many stones were present in the gall-bladder. In his opinion infectious cholecystitis often develops when these foreign bodies are present. Regarding diseases which present analogous symptoms to gall-stones, Walch reported a case in which it was thought that the patient during life had suffered from cholelithiasis but autopsy revealed that death had resulted from abscess. In one case he treated bile had been partially absent from the feces and entirely so in the urine, while the gall-bladder was considerably distended. In this patient he had been able to elicit gall-stone crepitus. The patient underwent an operation and 150 gall-stones were then removed.

Another patient was 52 years old, family history gouty, and for some time there had been pain in the epigastrium, but no jaundice. The pain had not shown a tendency to radiate toward the right hypochondrium. On palpation tenderness was found to exist in the region of the stomach and gall-bladder. Subsequently twenty-four gall-stones were passed per rectum.

A third patient was a woman 50 years of age, whose father had been subject to gout and the mother to rheumatism. The patient suffered from periodic attacks of pain in the abdominal region, and jaundice finally occurred. Gall-stone crepitus could not be obtained, but on placing a stethoscope just below the costal arch, while palpating with the free right hand, he could distinctly hear a grating sound. Auscultatory palpation in cases of gall-stone he considers a valuable diagnostic sign. In eliciting this sign he allows the patient to relax the abdominal muscles, and if crepitus is not found, dip the finger deeply into the abdominal muscles just below the fundus of the gall-bladder. Failing in this he tells the patient to take a deep inspiration, which throws the fundus forward and downward, thus bringing it in contact with the abdominal fingers. In order to detect the grating sound, which is frequently present, recommends that the stethoscope be placed just below the stal arch while palpating with the free right hand. In this ay friction of the stones will give rise to the grating sound.

DR. MORDECAI PRICE had never been able to feel the stones or hear the grating sound made by them. In one case in hich the consultant had stated that he heard the grating und, an operation revealed that a cancerous mass was pres- t. Speaking of the complications of gall-stones, he recalled case in which, at the time of operation, he found the stone nbedded within the walls of the abdominal aorta, and he al- wed it to remain. Three days afterward the patient died ddenly from rupture of the stone into the aorta.

DR. ERNEST LAPLACE thought that every sign which could d the physician in making a diagnosis of gall-stone should welcomed. In these cases in which crepitus can be detected necessarily implies that more than one stone is present.

DR. JOSEPH PRICE stated that in three patients he had re- oved 1000 gall-stones. In these, he thought that the signs oken of by Dr. Anders might have been elicited.

DR. SOLOMON SOLIS-COHEN thought that the sign as elicited Dr. Anders was of special value in the early stages of forma- on of gall-stone, when the disease might possibly be amenable medical treatment.

IRRIGATION IN PURULENT PERITONITIS.

DR. ERNEST LAPLACE read this paper, an abstract of which peared in the JOURNAL, October 21, ¶ 145, p. 1035.

Cleveland Medical Society.

Sept. 22, 1899.

VARICOSE ULCERS.

DR. F. E. BUNTS read a paper on "The Operative Treatment Varicose Ulcers and a New Local Application for Inoperable ses." It was his opinion that, in order to treat these ulcers ccessfully, it was necessary to first understand the pathologic ndition leading up to their formation. With these pathologic anges constantly in mind, the treatment of this class of oubles becomes one of comparative simplicity, and is to be ssed with other great advances in the practice of surgery. referred to the various operative methods now in use, and ve as his own preference the excision of from six to eight ches of the internal saphenous vein, extending about equally ove and below the knee-joint. All communicating branches e ligated and severed, and the wound is closed with silk tures, the knee fixed by posterior splints, and the patient con- ed to bed. The results were extremely satisfactory and the pidity of epidermization was very marked. In addition to is method of treatment, he also advised curetting and skin- afting. Healing of the most intractable ulcers should take ace in about three weeks. In those cases in which operation s refused, Dr. Bunts suggested what he believes to be a new eatment, that of dusting the ulcer with sterile pulverized iron e dust. This forms an excellent protection for the ulcer d the surrounding integument and, if combined with a mild tiseptic dressing, such as a moist bichlorid, the result ap- ars to be better than that obtained by the use of any other al application. In regard to the use of iron ore dust, it is eap, non-irritating, improves granulation, favors epidermiza- n, is at least aseptic, may be used on any class of wounds cept those about the face, and is especially valuable in granu- ing wounds, ulcers and varicose eczema.

DR. W. T. CORLETT noted that the usual remedies for ulcers other locations fail in varicose ones. He had never observed y benefit following any constitutional treatment. The re- mbent posture had been the most important measure of re- f, in his experience. This is not often possible, and then the thod of obliterating the veins is the best.

DR. R. D. FRY reported good results from thoroughly scari- ing the ulcer, and by strapping the limb from the toes to the ee. For this purpose he used moleskin plaster, keeping up e support for weeks and even months. He had seen benefit om stimulating applications applied with a camel's-hair pen- . Skin-grafting he often found very successful. The great cret of success in any treatment of varicose ulcers is asepsis.

DR. BUNTS, in closing, agreed with Dr. Corlett that constitu- nal treatment is practically of no effect, but differed from e last speaker in never having found any benefit from any al applications. Elevation of the part, with rest, and treat- nt with sterilized gauze, will result in cure if it can be con- ued long enough. Classification of ulcers by their varying aracters is of no benefit to the physician treating them. Some distinction must be made between the acute and the chronic.

LOCALIZATIONS OF CORD LESIONS.

DR. C. J. ALDRICH read a paper on "Localization of Some of the Lesions of the Lower Cord," in which he reported two interesting cases. These were cases of lesions of the last segment of the cord, around which he grouped some practical deductions as to the peculiarity of the lesions of the lower cord and *cauda equina.* The reports were accompanied by photographs illustrating the saddle-shaped areas of anesthesia, the extent of the atrophy and other trophic changes. He called attention to the fact that symmetry usually means a central, and asymmetry a peripheral lesion. He recommended lumbar puncture in cases of suspected hemorrhage into the membranes of the lower cord, and if, after withdrawal of blood, the symptoms failed to disappear, thought it perfectly proper to make a laminectomy, incise the membranes and remove the clots before they become organized.

DR. I. FRIEDMAN had seen one of Dr. Aldrich's cases and had observed that, while certain areas were anesthetic, they were yet capable of feeling pain, which the author had called *anesthesia dolorosa.* He asked the mechanism of this phenomenon.

DR. BUNTS had seen cases of persons who had fallen from a height, striking on the lower portion of the spinal column, in whom there were local paralyses about the lower portion of the trunk. This disappeared without treatment in three or four weeks, and he thought they were analogous to the old-fashioned concussion of the brain and probably caused by minute hemorrhages.

DR. ALDRICH, in closing, said that the anesthetic areas were in this condition because the conductive fibers were cut off, and, as frequently occurs in an amputated stump, some irritation to the remaining portion of the conducting fiber causes pain that is referred to the original location from which the fiber received its impression. He had seen cases like those mentioned by Dr. Bunts, and thought his explanation of their causation was correct.

DR. MARCUS ROSENWASSER discussed the management of uterine fibroids complicating pregnancy. The statistics from German lying-in hospitals show that, if allowed to go to term, one-half of the women and two-thirds of the children die, proving it to be a most serious condition. A few cases in which small fibroids are located in the fundus undergo normal labor. Two courses are open to the attendant: either to leave the case alone until after delivery, or to perform hysterectomy. Each case must be judged by itself. Rapidly growing or obstructing tumors should be operated on early. It is possible to remove many of the tumors, especially those that are pediculated, without interfering with the course of pregnancy. Some cases do well if let alone, and others if treated during labor. He also noted, with approval, a recent paper insisting that in every case of uterine hemorrhage at the time of the menopause a careful examination should be made by the general practitioner to determine the possible existence of malignant disease.

Jackson County Medical Society.

Kansas City, Mo., Sept. 15, 1899.

SYPHILIS OF THE SKIN

DR. WM. FRICK said that in nearly all cases of secondary syphilis some form of skin eruption can be seen at some time during that stage. In tertiary syphilis probably not more than half of the cases present skin lesions. In this stage we have the destructive lesions both in the skin and in other parts of the body. It is important to be able to recognize the tertiary lesions, because some cases occur so long after the secondary that it is forgotten; as the early stages were so light that very little attention was given; or the patient may be a woman who has had a syphilitic child or aborted a syphilitic fetus, and never shown the secondary stage. Tertiary syphilis is sometimes taken for other skin diseases, and non-syphilitic skin diseases are sometimes thought to be specific. All syphilitic lesions are characterized by round-celled infiltration. Lesions making their appearance after two years' duration of the disease are generally tertiary, but there is no certain line of demarcation between the secondary and tertiary, and the character of the lesion is a better guide than the length of time since the primary sore. The tubercular syphilide is the latest form of skin syphilis, and corresponds in time to the gumma of other structures.

The iodids are the specifics in this stage. Nothing else will cause so rapid a disappearance of the tertiary lesions when they appear. Some mercurials will assist the iodids at times, while some cases well require suspension of specific treatment and a tonic course for a time.

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SATURDAY, NOVEMBER 4, 1899.

CEREBROSPINAL RHINORRHEA AND OTORRHEA.

Having observed a patient in otherwise perfect health, who presented, without tangible cause, a discharge of cerebrospinal fluid from one side of the nose, for two and a half years intermittently, but for three years continuously, St. Clair Thomson[1] was led to undertake a study of the literature of the subject, with the result of collecting the records of twenty other cases. The patient was an unmarried woman, 25 years old, and she suffered only from the mechanical inconvenience of the discharge from the nose. Careful bacteriologic examination of the fluid proved it to be sterile, and chemical study demonstrated it to be cerebrospinal fluid. The discharge ceased on four occasions without obvious cause, and without the development of any other symptom—once for a month, at another time for two months, and a third time for a month, and again for sixteen days. All treatment was unavailing.

Of the cases collected there were eight in which the discharge from the nose was undoubtedly cerebrospinal fluid; in twelve the discharge was considered as probably this fluid; eight others were suggestive of an intracranial origin for the discharge, but their description was not sufficiently complete to justify their inclusion in either of the two preceding groups. Sometimes the discharge follows traumatism, or disease, or perhaps some operative manipulation. At other times, as in the present instance, it occurs simultaneously. Lucae[2] has recently placed on record a case that he believes to be unique in character, in which a profuse discharge of cerebrospinal fluid from the ear persisted for five weeks without cerebral manifestations. The patient was a young man, 17 years old, who had suffered from inflammation of the middle ear on the right side, necessitating mastoid trephining, and a subdural abscess being found. The ear trouble persisted, though greatly relieved by local treatment, especially the removal of adenoid vegetations, and, after the lapse of ten months, radical intervention was undertaken. On opening the mastoid process a defect in the bone, rather less than one-half inch in diameter, exposing the dura and covered by a sequestrum, came into view, and on removal of the latter an opening was found also in the dura and the arachnoid. From this blood and cerebrospinal fluid escaped in large amount, in spite of tamponade of the wound. The discharge of fluid continued for five weeks—quite freely for two weeks—and then gradually subsided. During all of this time no cerebral manifestations appeared, and neither vertigo nor fever was present, and the pulse was normal. The abundance and persistence of the discharge in this instance are attributed to excessive production of cerebrospinal fluid in consequence of irritation induced by the presence of the sequestrum of bone.

The clinical features of cerebrospinal rhinorrhea include first of all the discharge from the nose. The flow in most cases commences gradually; it occurs in drops, much as the flow of blood in epistaxis, and in carefully recorded cases it is continuous both by day and by night. In the latter period it may be swallowed during sleep. It generally makes its escape from one nostril only, but it may flow from both. The fluid that escapes amounts to about half a liter in twenty-four hours. The amount is increased when the patient strains in any way, or hangs the head forward. If collected with care the fluid is found to be absolutely sterile. The discharge may persist for many years. The fluid is perfectly transparent, like water, and free from sediment. It is faintly alkaline in reaction, and either tasteless or slightly salty. The specific gravity is between 1005 and 1010. The fluid is not viscous, and yields no precipitate—mucin—on addition of acetic acid. On boiling, only a trace of coagulum of serum-globulin appears. Serum-albumin is usually absent On boiling with Fehling's solution reduction takes place. The reducing substance may be obtained by evaporating an alcoholic extract of the fluid to dryness It is then found in the form of needle-like crystals The aqueous solution of this residue does not fermen with yeast, and does not yield the phenylhydrazin reaction.

Cerebrospinal rhinorrhea is an affection of middl life, the age-incidence falling between the extreme of 18 and 65. Males and females suffer alike an equally.

In seventeen cases cerebral symptoms were presen including headache, vertigo, sonnolence, drowsiness vomiting, delirium, convulsions, coma, paresis, impaired vision, optic neuritis or atrophy, proptosis, exophthalmos, and enlargement of the thyroid gland. A noteworthy feature is the absence of fever.

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[1] Cerebrospinal Fluid: Its Spontaneous Escape from the Nose, with Observations on Its Composition and Function in the Human Subject. Cassell & Co.: 1899.

[2] Berliner Klin. Woch., Aug. 2, 1899, p. 869.

The condition must be differentiated from nasal hydrorrhea, so-called dropsy of the antrum or serous accumulation in the maxillary sinus, vasomotor rhinitis, paroxysmal sneezing, hay-fever, and rupture of a lymphatic vessel. Nasal hydrorrhea is characterized by the following features: The flow takes place almost invariably from both nostrils, although sometimes more from one than from the other; it is not noticeably influenced by the position of the head, and it ceases during sleep. It is, as a rule, preceded or accompanied by other signs of irritation of the mucous membrane, such as sneezing, lachrymation, and photophobia. The flow is variable, and seldom has any regularity, either in the dripping or in the intermission; but the flow is seldom continuous for more than a few hours or a few days at a time. Headache is not relieved by the flow, but is, as a rule, made worse. Cerebral symptoms are not marked. Ocular symptoms are unknown, except for some conjunctival irritation. In cerebrospinal rhinorrhea, on the other hand, the flow is generally one-sided. Sneezing is rare, and infrequent, and lachrymation, suffusion of the conjunctiva, and photophobia are wanting. The flow is practically continuous and apparently uninfluenced by external conditions or the general state of the health. Lymph, as contrasted with cerebrospinal fluid, coagulates spontaneously from the presence of albumin, and the specific gravity varies from 1012 to 1022. It always yields all of the tests for sugar. From all of these conditions, however, cerebrospinal rhinorrhea is to be differentiated by the physical and chemical characters of the discharge.

The pathology of the affection is obscure. It has been attributed to abnormal accumulation of fluid in the ventricles, in some cases associated with meningitis, in others with tumors. Sometimes the cranial cavity presents no obvious peculiarity. It is not known by what channel the fluid escapes from the brain into the nose. It has been thought that this may take place through some adventitious opening, present naturally, or induced by traumatism.

The condition does not in itself appear dangerous to life, and, as has been intimated, there is no reliable mode of treatment.

ORIGIN OF TYPHOID ANTIBODIES AND AGGLUTININS.

The mechanism of the production of substances which are antagonistic to the harmful action of bacteria is being actively studied. We already know of a considerable number of so-called antibodies which are produced in the body under the influence of various stimuli. There are antitoxins, the agglutinins, the various antihematic substances, the lactoserum which precipitates milk, etc. Ladislas Deutsch studies the origin of the antibodies in typhoid infection[1]. A single intraperitoneal injection of a culture of the typhoid bacillus into a guinea-pig is followed by the production of antibodies. The antityphoid power of the serum appears on the fourth to the fifth day, and reaches its maximum on the eleventh or twelfth, when 0.05 c.c. protects against twice the fatal dose. This property then rapidly diminishes and disappears wholly in one month. The antityphoid substance or substances are present to a slight extent in the liver, the kidneys, the adrenals and the omentum; in the peritoneal exudate it is almost as well marked as in the serum of the blood. In a small proportion of the experiments the bone marrow and the spleen were found more active than the serum. The antityphoid substance develops as freely in animals deprived of the spleen before the injection as in healthy animals. Splenectomy during the early days of immunization results in a quite marked diminution of the antityphoid property. The injection of the substance of the spleen removed under these circumstances gives rise to specific agglutinins in the blood of the animals injected, showing that these substances or their precursors are present in the spleen. These experiments failed to show definitely which cells give origin to the antibodies, but it is thought that the occurrence of these bodies in the serum, the marrow and the spleen indicates that the leucocytes are their source. This conclusion concurs perfectly with the teachings of the investigators of the Pasteur Institute who look on the leucocytes as playing the essential part in the immunity.

Deutsch also found that the intraperitoneal injection into the guinea-pig of heated typhoid culture produces agglutinating substances in the serum. The appearance and development of this power follow the same rules as those of the antibodies. Agglutinating serum is always preventive, but there are serums with feeble agglutinating powers, which nevertheless contain active antibodies. The identity of agglutinins and antibodies can not be maintained. The agglutinins are present in the largest quantity in the serum of the blood, the lymphatic organs containing variable quantities. Splenectomy before immunization does not hinder the formation of agglutinins, but when made three or four days after the injection of typhoid bacilli, the quantity of agglutinins falls much below the normal. The spleen consequently harbors the microbic products which lead to the formation of agglutinating substances. The only organ in the guinea-pig which possesses a higher agglutinating power than the blood serum is the lungs, but this power of the lungs can not be considered as specific because it is present in animals, such as new-born guinea-pigs, which have not been immunized, and is exercised on diverse microbes. The extract of the normal lung appears to be the first animal humor which, while strongly agglutinating, does not contain preventive substances. Perhaps the agglutinating substances of various kinds found in healthy untreated animals are derived from these pulmonary agglutinins.

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[1] Annales de l'Institut Pasteur, 1899, xiii, 689.

OPERATIVE TREATMENT FOR TYPHOID PERFORATION.

There is much ground for encouragement in the admirable paper read by Dr. W. W. Keen, on the "Treatment of Perforation of the Bowel in Typhoid Fever," at the recent meeting of the New York State Medical Association. It was pointed out that the percentage of recoveries following operation for this condition had increased from about 19 per cent. in the past fourteen years to about 27 per cent. during the past year and a half, among almost as large a number of cases, and it was hoped that the percentage might be further increased to at least 33 1-3.

In this hope, which we think justified by the experience of the past, we wish to sustain Dr. Keen. One of the most important considerations for success is timely operation. We agree with Dr. Keen that it would be hazardous to operate during the period of shock, but it is sometimes difficult to know that reaction will take place, and when. The decision in the individual case must necessarily depend on the judgment of those under whose observation the patient happens to be. There can be no hard and fast rule except to operate as early as feasible, as, with Dr. Keen, we believe that the question whether operation shall be performed or not has already been answered in the affirmative. To secure the best results the injunction that the surgeon should be called in consultation as soon as perforation is feared or suspected, is worthy of general adoption. Its observance in cases of appendicitis is no doubt responsible for the saving of many lives. Experience has shown that operative intervention should not be repudiated as hopeless at any stage, or in the presence of any condition however alarming. One of the latest cases in the category under consideration, which is also noteworthy in other respects, has been reported by Hawkins and Thurston[1]. A girl 11 years old, on the forty-first day of an attack of typhoid fever, developed symptoms of perforation of the bowel, for which operation was undertaken fifteen hours after the occurrence of the accident, a perforation of the cecum about one-eighth inch in diameter being found and sutured, the peritoneal cavity irrigated and cleansed, and although the postoperative condition was at the time alarming, recovery eventually ensued. The patient fell into a septic state two weeks after the operation, and for eleven days 5 c.c. of antistreptococcic serum was injected daily. The case was further complicated by a relapse on the one hundred and first day, lasting fourteen days. Widal's test yielded negative results on the fifteenth, twenty-second, and thirty-seventh days, but a positive reaction on the one hundred and third day.

A CONTEMPORARY ADVERTISES ITSELF.

One of our esteemed New York contemporaries appears to be using printer's ink extensively in a commercial sense of the term. An apparent advertising editorial has recently been circulating through the secular press calling attention to the "leading organ of the medical profession in America," that has gained a world-wide reputation as the "recognized medium of intercommunication between the profession throughout the world." We were not before aware that English was already the universal language of medicine, though we had hoped it might become the "recognized medium of intercommunication." The editorial goes on to give the advantages and merits generally of this medical newspaper and "most influential of its class." This is probably altogether legitimate, as much so perhaps as sworn publications of circulation, etc., but the method is novel and noteworthy. The one ethical question involved in this case is that of the absolute truth of all these statements. The identity of the editorials in all the publications where they appear indicates, beyond question, a common source, which must be, from internal indications, about the middle of the first hundred numbers on Fifth Avenue, New York City.

CONGRESS OF PROFESSIONAL MEDICINE.

We have received the first general circular of the First International Congress of Professional Medicine and Medical Dermatology, to be held at Paris, July 23-28, 1900. It gives the general statement of the subjects of the sections, viz., on the relations of physicians to organizations, etc., to individuals, to other physicians, and questions of medical insurance, defense, etc. Titular membership of the Congress is obtained by payment, before the opening, of fifteen francs by postal order; participating membership by similar payment of ten francs; the former only gives the right to take part in the discussions. All manuscript of reports to be presented must be in the nands of the Committee on Organization before Jan. 1, 1900. These, which will be printed and distributed in advance, must be in French. The communications may be in either French, English or German, but should be attended with a brief résumé of their principal points in French. The Congress has a wide field for its labors and can hardly fail to elicit opinions and discussions of great interest to the profession.

THE TEXAS QUARANTINE.

A rather curious condition of affairs is shown in the recent suit of the State of Louisiana for relief from the quarantine regulations imposed by the State of Texas. The Louisiana counsel holds that the quarantine regulations of Texas are being imposed for the purpose of interfering with interstate commerce under the pretense of protection against disease, and the Texas attorney, according to newspaper reports, practically admits the accusation. The case for Louisiana is strong enough apparently for the U. S. Supreme Court to allow it to file a bill for an injunction against the State of Texas, prohibiting a trade embargo in connection with the yellow fever quarantine of the latter state. We do not pretend to speak authoritatively as to the commercial or legal aspects of the case, but it seems a pity if, on the one hand, commercial demands can interfere ith needed sanitary regulations, and an outrage, on he other hand, if the plea of sanitation is prostituted o aid mercenary commercialism. As to which of these ossibilities really exists in the Texas quarantine, we hall probably have to wait for the courts to decide. t is to be hoped, for the credit of the Texas sanitary uthorities, that they can present a reasonable defense, ven if they have to admit that their zeal may have run eyond discretion, which is not yet proven.

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[1] Lancet, October 14, 1899, p. 1004.

MORPHINISM AMONG PHYSICIANS.

It is to hoped that the figures cited by Dr. T. D. rothers[1] at the recent meeting of the New York Medcal Association, to the effect that 10 per cent. of medcal men are morphin habitués, are exaggerated, alhough there are few individuals so much exposed to he danger of addiction as they, by reason of the nature f their work, with its cares, responsibilities and emoions, the necessary and often unavoidable irregularity f their hours of sleep, eating, and recreation. With he knowledge of the danger, it should be the invariable ule of physicians never to take any drug, and especially f the sedative or hypnotic class, on their own initiative, ut always and only on the advice and under the obervation of a trustworthy colleague. Here, perhaps, more than in any other relation, the apt truism of Weir Mitchell may be quoted as appropriate: "The hysician who treats himself has a fool for a patient."

VITAL STATISTICS IN INDIANA.

The physicians of Indiana are, it is said, at outs with he state authorities as regards the working of the registration laws. The statute, it appears, has been so rawn up that the filling of elaborate blanks in cases of irths and deaths is made obligatory, without compenation, on physicians, who are also required to make a emimonthly report as to births occurring in their ractice whether, so far as it appears, there have been ny or not. The State Board which secured the passage f the law had inserted the provision that the health offiers must prosecute all physicians failing to duly report irths and deaths, and this feature of the law makes he position of the local health officers a very embarrassng one. It is said, indeed, that there is difficulty in inding competent physicians who are willing to take he position. They recognize the injustice of demandng uncompensated labor and expense from a profession hat already does much more than its share of unpaid ervice for public welfare. The result will be that the aw, like other glaringly unjust enactments, will pass nto innocuous desuetude, and the vital statistics of Indiana will not be compiled. If the state wants staistics, it ought to make a provision for compensation for birth reports at least, otherwise it will be unlikely o get them.

WOODBURY VS. EDDY.

The case of Woodbury vs. Eddy, a slander suit claimng $150,000 damages, is the sequel to the article in the *Arena* last May by Mrs. Josephine Curtis Woodbury, exposing "Christian Science" and its prophetess. The latter, it is claimed, retorted by identifying the author with the scarlet woman of Revelation, a characterization that might not unreasonably be considered libelous by any woman to whom it was applied. Mrs. Eddy herself, it is said, applies the twelfth chapter of Revelation to herself. She is the woman clothed with the sun, with the moon under her feet. It may be rather rough for people who have a reverence for the Scriptures and for sacred things to have the profane pretensions of the prophetess aired in court, but it is to be hoped the case will go through. One would not specially regret to see her coffers tapped a little for the benefit of one who had suffered such an unsavory personation from her rostrum, and a little light let in on the Eddyistic methods, such as is now being thrown on the kindred delusion of Dowieism, ought to be beneficial. It is also, perhaps, worthy of mention here, as illustrating the hostility of "Christian Science" to science properly so-called, that protests have been made by its adherents against any teaching of physiology in schools. They would probably prefer to have metaphysics taught instead.

COMMISSIONS.

The matter of the payment of commissions by consultants to general practitioners who send them cases has already been severely condemned in these columns, but evidence that certain members of the profession are endeavoring to permanently engraft this debasing custom on us compels further reference to this excessively displeasing subject. Specialists are daily receiving importuning letters from general physicians, asking, "what inducements do you offer for operative cases?" There can and must be no compromise in this vital matter. The physician who gives or receives a commission in this manner thereby writes himself down a veritable quack; no other conclusion is possible. The profession must rapidly ascertain who are the men engaged in exploiting this execrable practice, and put them explicitly beyond the pale of decent association. Nothing more subversive of the honor of the profession than this business of commissions has ever been proposed. This rank weed, if allowed to sprout and develop, will soon produce a crop of patient-brokers who will arrange terms between the family doctor and the specialist, while the patient will become mere chattel property to be hawked about and knocked down to the highest bidder. There can be but one true reason for referring a case to a consultant, viz., the good of the patient. To interject a mercenary agreement between the physician and the consultant is to strike a death-blow at the very foundation of professional honor. No physician who respects his calling and who appreciates the dignity of education and the joy of mercy can afford to in the least degree compromise with this pernicious tendency. No two alternative courses in this matter are open to the choice of honorable men. The practice must be unhesitatingly frowned down from its very inception. The specialist who once succumbs to this seductive phase of temptation will subsequently find that he has bound himself hand and foot at the altar of Mammon; and the general practitioner who asks a commission for a referred case will sooner or later be crucified on the outraged decency of the patients he has arrogantly assumed to be his private property. That this ignominious practice will thrive among the quacks and all manner of irregulars is to be expected, but the physicians of this country, each and every one, must turn their hands actively to the extermination among themselves of the spores of this noxious growth. Wherever you meet it, condemn it in unmeasured terms.

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[1] Journal, p. 1165.

RESUSCITATION IN APPARENT ASPHYXIA OR DROWNING.

Some years ago an American physician reported a case or two of resuscitation of persons after long submersion, by continuous artificial respiration carried on for hours before the result was obtained. The report attracted little attention and was probably mildly discredited by the majority of the profession. Now, however, we have French testimony to the same effect. At the Academie de Medicine, October 3, M. Laborde related fourteen cases of resuscitation of individuals in a state of apparent death, by rhythmic traction of the tongue. Half of these were cases of apparent deaths from drowning, some of which had been subjected to the traction for periods of twenty to sixty minutes, or more, and one in which this was performed for three hours before the subject was revived. According to him, submersion for thirty to forty-five minutes is not sufficient in some cases to render resuscitation impossible. The vital powers would seem, according to Laborde, to persist for a much longer period than has heretofore been considered possible, the maximum limit reaching at least three hours. During this time it was found, in experiments on asphyxiated animals, that the blood was very rich in carbonic acid and contained only traces of oxygen, but it never coagulated, and maintained a certain constant temperature. The heart was apparently stopped and presented only slight tremulous movements, but as soon as respiratory movements began to be re-established, it pulsated strongly. It is probable that these experiments give a fair conception of the conditions in the apparently drowned, and that there are at least some cases where a vigorous effort with artificial respiration may save life after a much longer submersion than has hitherto been deemed inevitably fatal. Laborde's report dwelt especially on the value of his method of rhythmic traction of the tongue, but it is by no means impossible that other methods also, when persistently used, may be effective. The tongue traction method is itself always available, and in view of this testimony should always be employed. The communication is a noteworthy one in that it indicates possibilities of life-saving beyond our previous conceptions, and the facts should therefore be widely published. (See also p. 1162.)

INFECTION FROM BOOKS.

The State Board of Health of Michigan has, it is reported, sent a communication to the New York Board of Health, that twenty clerks employed on some volumes of records had died of consumption, and that on examination by a bacteriologist, the books were found full of tubercle bacilli. It is thought they became infected by a former clerk who had the habit of moistening his thumb with saliva in turning the pages. As first stated in the newspapers, this occurred in Michigan, but we have been informed that it really occurred in Germany. There is nothing remarkable in the fact that a set of books that had been coughed over by a succession of twenty consumptive clerks should contain tubercle bacilli, and decidedly need sterilization, but the story is an interesting one though too incomplete and indefinite. It ought to be given with a thorough medical report of all the facts, and this we have not yet seen in our overlooking of German medical literature. It would be of interest to know how many cashiers of business houses, and tellers, become infected from the money they handle, which must of necessity be loaded with every form of germ. So far as we are aware very little effort is made to disinfect dirty bills and coins, which last are often almost black in places with dirt lodged in the impressions of the die. We all know what the physical characters of much of the paper currency are, and it is a most remarkable thing that every possible infection is not spread broadcast by it. The fact that the ill effects of dirty paper passed from hand to hand by thousands of people, habitually wet with saliva in counting, circulating everywhere without any attempt at cleansing or disinfection, does not convey disease at wholesale almost staggers one's faith in any infection whatever. The bank tellers' occupation should, of all others, it would seem, be one of the most productive of morbidity and fatalities. What are the facts in the case and have they been investigated? It would appear that this might be a matter worth inquiry. It is, in fact, probable that none of us really escape the infection of tuberculosis, but that only where the predisposition exists or the infection is particularly virulent is it effectual in producing perceptible morbidity, and may not this constant exposure have created a very general immunity to the disease? This certainly appears to be one of the most rational explanations of the facts as they exist.

BACTERIOLOGIC RELATIONS OF THE BILE.

Now that surgeons frequently operate on the liver and the biliary passages, it is important to know as much as possible concerning the bacteriologic relations of the bile. The most recent observations on this subject are by E. Fränkel and Krause[1] of Hamburg. They examined the bile after death under suitable and, it is believed, satisfactory conditions and precautions, so that the results are entitled to be regarded as reliable. It was found to be contaminated with bacteria in 25 out of 130 cases; in 12 of the 25 cases biliary calculi were present; 4 were instances of acute infectious diseases, 4 of peritonitis, 3 had been subjected to abdominal operations, and the remaining 2 were unassociated with any special etiologic conditions. These results are in marked contrast to the results obtained by Létienne, who found that bacteria of different kinds were present in the bile in 40 per cent. of the cases examined; Fränkel and Krause attribute this high figure to im-erfect technic. Without entering into details as to diferent kinds of bacteria present, and other points, the esecial feature to which we direct attention is that in five ases—not contained among the 25—Fränkel and rause, by experimental inoculation of guinea-pigs ound tubercle bacilli present in the bile. Eleven samles of bile from tuberculous individuals were tested in is way. The cases were partly instances of chronic berculosis of the lungs, and partly of acute miliary tuerculosis. In no cases did the liver present gross tuercular changes, but unfortunately thorough microscop- examinations of the livers were not made. The exact ode of entrance of bacilli into the bile therefore reains obscure. This demonstration that tubercle germs ay occur in the bile carries with it the injunction that surgical operations on the biliary tract of tubercuous individuals no bile should be allowed to enter the odominal cavity lest a tuberculous peritonitis develop. his demonstration also suggests a new mode of deelopment of intestinal tuberculosis, namely through e bile contaminated with tubercle germs.

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[1] Ztft. f. Hyg. u. Infektionskr., 1899, xxxii, 97.

The investigators mentioned found that sterile huan bile is a fairly favorable culture-medium for diferent kinds of microbes. Typhoid and colon bacilli nd the staphylococcus pyogenes retained their biologic haracters unchanged after a sojourn of weeks in the ile. This fact accords well with observations already ade anent the survival of typhoid bacilli in the gallladder after typhoid fever. Fränkel and Krause found at typhoid bacilli and also that diphtheria bacilli did ot lose any of their virulence when grown in bile. On e contrary, certain facts mentioned seem to show that the case of the typhoid bacillus an actual increase virulence may occur. Sterile human bile was found n experimental intraperitoneal injection to cause but ight inflammatory changes.

ANTIVACCINATION DELUSION.

A child died last week in Chicago from lockjaw arting from an unhealed vaccination wound, and this as naturally received some attention from the press. he facts seem to be that the vaccination was properly erformed, and that the infection, as might be supposed, as a subsequent matter. There are, however, in every ommunity some antivaccination fanatics to whom such n occurrence is a godsend and a chance for the wildest eneralization and accusations. If one in a hundred housand or more cases of vaccination becomes compliated by some neglect or accident, and death results, the act is at once utilized and made the most of by the lay ress, that, while not opposed to vaccination, is all alive or any item that is in any degree catchy or sensational. death following vaccination, however remotely or inirectly, is immediately snatched up as an argument gainst vaccination by the "antis" and cranks. Even germ disease like lockjaw, as in this instance, is liable o be attributed by them to the vaccin virus, however ure and aseptically inoculated. That a coroner's jury hould give a verdict, attributing the death to vaccinaion, as in this case, is, considering the facts as reorted, an inconsiderate performance and apparently an vidence of the extent of the delusion to which we have eferred.

Medical News.

St. Mary's Hospital, Grand Rapids, Mich., which has been entirely remodelel and rebuilt, was dedicated October 24.

The yellow fever patient who arrived in New York City from Havana, the 24th ult., died on Swinburne Island, October 26.

Dr. Howard S. Anders of the Medico-Chirurgical College has accepted the Municipal League nomination for coroner of Philadelphia.

A sanatorium is being erected by the Germans at Davos in the Engadine, to cost about $60,000. The endowment for free beds is a third of this sum.

The Johns Hopkins University will send an exhibit to the Paris Exposition. The hospital will be represented by a complete collection of its publications.

Dr. C. A. Smith was given a farewell banquet by the King County Medical Society, Seattle, Wash., October 19. He goes to Elizabeth, N. J., to engage in practice.

Prof. Alexander C. Abbott, of the department of hygiene, University of Pennsylvania, has begun a course of lectures on that branch to the third year students of the Johns Hopkins Medical School.

The Board of Visitors of the University of Virginia recently authorized the Medical Faculty to commence work on the new hospital to be built on the university campus. The hospital will cost $25,000.

The hospital at Sagua la Grande, Cuba, is said to have collapsed on October 22, killing four patients and wounding twenty-seven. It is believed that the building had been inundated by recent heavy rains.

The new Institute of Physiology at Vienna was formally opened last month, with appropriate ceremonies presided over by Prof. S. Exner, the superintendent, and Zuckerkandl, dean of the medical faculty.

The public schools of Princeton, N. J., were recently closed for ten days on account of the prevalence of diphtheria. During the past week, a number of cases have been reported. Owing to the mildness of the disease no serious epidemic is feared.

It is said that the medical authorities of Virginia now fear a severe epidemic of smallpox. The disease began in the early spring and, owing to a lack of proper quarantine restrictions, it has now become widely distributed over the state. The southern portion seems most afflicted.

A girl, 4 years old, at Locust Grove, Pa., was bitten on the cheek by a dog about three weeks ago. The wound healed promptly, but on October 24 the child became restless, would snap at imaginary objects, rapidly became worse, finally suffering severe convulsions requiring forcible restraint to keep her in bed. On the 26th she died.

Appreciating the need of a hospital for themselves, the Americans and English residing in Rome have formed an organization for the purpose of creating such an institution. Five thousand dollars have already been subscribed and the Anglo-American Nursing Home, it is thought, will soon be an accomplished fact. All Americans and English who may become ill while in Rome will be entitled to its benefit.

A little anecdote of Virchow is going the rounds on the occasion of his 78th birthday, October 13. He was examining a medical student who had remained dumb to question after question, until asked: "Is regeneration of the brain possible?" when he energetically replied in the affirmative. "Well, then," Virchow observed, "there is hope for you yet."

The State Board of Health of Pennsylvania has recently had printed a pamphlet on the diagnosis and prevention of smallpox. The law for the restriction of the disease is also printed in detail. Circulars in regard to the proper precautions against cholera, diphtheria, trichina and other infectious diseases have also been authorized by the secretary of the State Board of Health.

The Memorial Committee of the Maryland Public Health Association will erect a bronze portrait tablet as a permanent memorial to the life and public services of the late Dr. George H. Rohé, Baltimore. It will be placed either in the hall of the Medical and Chirugical Faculty of Maryland, or at Springfield Asylum for the Insane, an institution which was erected and organized by Dr. Rohé.

Anthrax was responsible for a very interesting civil suit tried last week at Guelph, Ont. The widow of a tanner brought action against the proprietors of a large tannery in Acton, on the ground that her husband's employers had imported infected hides, and that through working with these her husband had contracted the disease, from which he died. The courts awarded the plaintiff $1,000, and her two children $500 each.

Mr. William H. Appleton, senior member of the firm of D. Appleton & Company, died in New York City, October 19, aged 88. While his influence has not been felt in recent years on account of age, it has had much to do with medical as well as other literature in the past. To him probably more than to anyone else is due the credit of the existence of the *N.Y . Medical Journal*, the *Popular Science Monthly*, and many medical books of the highest value.

It may be interesting news to those gentlemen who sent a favorable reply to the letter we published in reference to commissions (see Journal, August 26, p. 561), that the letter was written for an ulterior purpose, the same being to find out just who are in the "commission business." We understand that the replies received will be published shortly, although to relieve anxiety we can say that we believe no names will be given.

The Alvarenga prize for 1899 has been awarded to Dr. Robert L. Randolph, Baltimore, Md., for his essay entitled: "The Regeneration of the Crystalline Lens—An Experimental Study." The next award, $180, will be made on July 14, 1900. Essays intended for competition may be on any subject in medicine, but can not have been published, and must be received by the Secretary of the College of Physicians, Philadelphia, on or before May 1, 1900.

On October 27 Lady Randolph Churchill presided at a meeting of American women in London to raise funds necessary for the equipment of a hospital ship to be sent to South Africa. A resolution was passed: "That the American women in Great Britain, while deploring the necessity for a war, shall endeavor to raise among their compatriots in England and America a fund for the relief of sick and wounded soldiers and refugees in South Africa."

It is said that Dr. Henry Beates, president of the State Board of Medical Examiners of Pennsylvania, is making a searching examination in regard to the charges made against medical students who recently passed the Board, many students being said to have previously obtained the examination questions. The charge of bribery has been made against those who obtained the first list, supposedly from the printer; $500 is the amount believed to have been paid for the questions. Already one of the medical colleges has offered to coöperate with the state authorities in apprehending the guilty parties.

A special agent of the Pure Food Commission of Pennsylvania, October 24, has gathered up considerable adulterated foodstuffs throughout the state. A carload of bogus cider vinegar, shipped by a firm in Louisville, Ky., to a party in Allentown, has been confiscated. It is said that the vinegar is a product made of corn and colored with burnt sugar, the cost to manufacture being $1\frac{1}{2}$, and to the consumer $8\frac{1}{2}$ cents per gallon. A large amount of bogus "renovated butter" has also been seized.

Dr. S. Weir Mitchell, Philadelphia, is becoming a decidedly prolific writer, his reputation increasing with each additional novel. His latest is an elaboration of one published some years ago in the *Atlantic Monthly*, and is entitled "The Autobiography of a Quack." The first installment appears in the *Century* for November. The character of the subject, or hero, is not an enviable one, nor one to add glory to the profession to which he belongs. He is supposed to have graduated from one of the Philadelphia medical schools, and commenced his "practice" in that city. Evidently the subject is to represent the "degenerate" in medicine.

We have already mentioned the peculiar conditions that prevail at the medical school in Cairo, where every inducement is offered to students but without attracting any. When the school was founded it was under French management and was fairly successful, but since the English took charge it has been deserted. Last year reforms were announced, which have consisted in increasing the salaries of the English professors, "and they deserve increased salaries," a correspondent of the *Journal des Debats* observes, "as for a medical professor there is no punishment to equal that of dissecting cadavers before benches empty of a living soul." The law schools are well patronized. The instruction is given in French and a legal training is the best preparation for official positions, and also "for ousting the English, the dream of the Egyptian youth."

Family Diseases.—The heredity of disease is an accepted fact. Only in the rarest instances, however, is disease itself so transmitted, but rather the tendency thereto, the anatomic and physiologic peculiarities that render the individual susceptible to the invasion of the materies morbi or to the influence of physical or chemical agencies, or to involution or degenerative changes. A remarkable instance of apparent family predisposition to disease was recently reported by Dr. Carl Beck, before the New York County Medical Association, in which every member of a family of ten had suffered from gall-stones. Four of these patients were exhibited, three others were still living, and three were dead. In one the viscera were transposed, with the heart and the spleen on the right side and the liver on the left.

With the Medical Schools.—The graduates of McGill University held their second annual banquet the evening of October 20. In replying for the Faculty of Medicine, Dr. T. G. Roddick stated that that Faculty originated in 1824, and for ten or twelve years was the only one in existence in Canada. He thinks that during all this time it has held its own, not only as the first in this country but also on the whole continent. Buildings can not be erected rapidly enough to accommodate the students; and although the fees were increased this last year, there are more freshmen this year than ever. There are 440 students in medicine this year at McGill. —The regular sessions of the University of Louisville, Medical Department, and Louisville Medical College began recently with larger classes than last year.—The fiftieth annual session of the Los Angeles (Cal.) Medical College opened October 25.

Medical Service in Transvaal War.—The medical service in the present Transvaal war appears to be well organized, though there will be some friction in the working of improvised organizations or under unforeseen and sudden emergencies. Field hospitals already mobilized are being sent from India, England and Australia, and stationary hospital equipments and personal are on their way or already in service. A precaution that has not heretofore been taken under similar circumstances, is the inoculation against typhoid, noted in the Journal of last week (p. 1111), and much interest will be felt in the result by medical and military authorities. If the English can thus stamp out typhoid in advance they will probably have an advantage over their opponents equal at least to one small victory. There are to be in all twelve field-hospitals, four stationary and four general hospitals, each with complete staff and equipment. Several prominent surgeons, among them, we understand, Mr. Frederick Treves, and Sir William McCormac, have volunteered their services. If no great disaster brings trouble and disorganization, the British wounded in the hands of their countrymen are likely to be well cared for.

The Plague.—According to the *British Medical Journal*, October 21, matters in Oporto, Portugal, are going from bad to worse, and the plague seems to be getting a firmer hold. During the week ending October 15, 30 fresh cases of plague occurred, and 7 deaths from the disease. Since the commencement of the outbreak 161 cases are known to have occurred. This may appear an insignificant total, but the worst feature of the epidemic is that in spite of sanitary precautions, the use of prophylactic and curative serum, and of every measure known to science in Portugal, the number of fresh cases has increased largely. It is some consolation to know, in the event of the possible spread of plague beyond Oporto, that the general consensus of opinion is that in no town in Portugal can the plague find a more congenial home. It is difficult to find a place quite as bad all around as Oporto; the overcrowding is excessive, sometimes as many as fifteen to twenty people occupying a single apartment. When a case of plague appears in such an abode, and the work of disinfection is proceeded with, there is no place for the occupants to go except the street, and, as a rule, they remain there until their home is disinfected. It must not be imagined that the Portuguese are altogether a dirty race; their apartments are neater and cleaner to all outward appearance than in British towns, but overcrowding is rife, and their public sanitation is primitive and inefficient. Many Spaniards reside in Oporto, and it is noticeable that the earliest ascertained cases of plague occurred among them. The Spaniard is much less cleanly than the Portuguese, both in his person and in his household, and were plague to spread in Spain the bacillus would find a much more congenial atmosphere than in Portugal. The costly amusement of the military cordon around the city goes on, but the cordon is no barrier against the extension of the disease; already 9 cases, with 5 deaths, have occurred in a village situated some 12 miles from Oporto, and it is feared the rest of the kingdom will be attacked. The local authorities in Oporto are endeavoring to raise a loan of £1,000,000, whereby to effect radical sanitary reforms. If this energetic spirit prevails we may soon hope to hear of Oporto rehabilitating itself in an improved sanitary condition. No new cases have been reported in Alexandria, Ægypt, but in Mauritius, 63 fresh cases had occurred, and 47 deaths during the week ending October 12. In India there appears to be a little change.

Correspondence.

London.

(From Our Regular Correspondent.

London, Oct. 21, 1899.

MEDICAL SCHOOLS.

The opening of the post-graduate schools this session has shown a very considerable falling off in the expected attendance. The London School of Tropical Medicine, in spite of the great public interest taken in it, and the dramatic developments in the past few months in our knowledge of the diseases which it has designed to study, has a class of not more than twelve or fifteen. And much the same state of affairs is reported from both the Polyclinic and the West London Post-Graduate School. And the list of entries in the under-graduate schools appears to show a distinct though less noticeable falling off. The only cause which seems to have been suggested for its shrinkage is the general unsettlement in things medical produced by the war. But while this would obviously account for much shrinkage in the post-graduate classes, it would certainly not apply with equal force to the under-graduate entries. However, it will be remembered that at the outbreak of our own disturbance a year ago, it was believed to have markedly affected the entries in the spring and summer sessions in America, and even to have extended its disturbing effect to those for the next year.

MEDICAL OFFICERS OF HEALTH.

It is really gratifying to note that the great central sanitary authority of England, the Local Government Board, is at last beginning to appreciate something of the intrinsic value of the services of the medical officers of health. On no less than three occasions lately has it interfered between local municipalities and board guardians in behalf of our defense medical officer. The latest instance is that of the Municipal Council of Bath, which had largely increased the duties of their medical officer but made only a moderate addition to his salary, bringing it up to about $2100. The Local Government Board promptly replied to the illiberal councillors that they considered that the least which ought to be offered was $2500. So the profession is no longer to be left at the mercy of grasping and narrow-minded local authorities.

MEDICAL CONTRACT PRACTICE.

There are distinct signs that the evils of the club or medical contract system of practice are beginning to call attention to themselves. One of the most shameful defects lies in the fact that the clubs, being primarily monetary and money-saving organizations, have succeeded in securing the medical attendant for a fixed sum, or at a very small percentage, proceed to move heaven and earth to increase their membership and load all the work possible on the medical officer. It was developed a few days ago, in the course of an inquest on the body of a child of a policeman at Westminister, that a club doctor, who had attended the case, had been unable to visit the patient on a particular day, during the time of his attendance, because he had to attend *four confinements* and *eighty* other cases that day. The coroner very properly remarked that clubs which so disgracefully overworked their medical men were the real parties to blame in such matters, and that the huge number of individuals placed by this system under the care of one man was becoming positively prejudicial to the public health and a serious matter. The jury returned a verdict specially exonerating the doctor from all blame in the matter.

VEGETARIAN CONFERENCE.

Our vegetarian friends have just been holding their annual conference at Manchester, and it is really almost pitiable to see how their once active and apparently successful campaign has dwindled, until it has become little better than a laughing-stock. Indeed, if it were not for the furiously enthusiastic interest which they have developed in the antivivisection and antivaccination campaigns of late years, they would hardly attract any further attention from the profession. A recent meeting of the society in London advised against the use of cheese, on the ground that it was curdled by the stomachs of calves which had to be killed for the purpose. And one speaker actually went so far as to inveigh against the use of "animal" boots. The *opera bouffe* was carried even further at the Manchester meeting, as one of the officers, who we regret to say rejoices in the title of "Dr.," in the course of hailing vegetarianism as the certain and only cure for the drink habit, advised against the use of salt as promoting an unnatural and fictitious thirst, adding the remark, which with the utmost allowance for the mental imbalance produced by a crazy crusade, it is difficult to credit as intended seriously or even uttered at all, that for his part he did not even *drink water!* It may be remembered that some years ago Sam Jones described a certain prohibition community, in which he lived, by the vulgar but vigorous phrase: "we are so dry that we scarcely even spit," but Dr. Sill really appears to have exceeded this.

The antivivisectionists, by the way, in spite of the assistance of their blameless vegetarian allies, are sinking into the most gratifying "innocuous desuetude," through the progress of serumtherapy and its appreciation by the public. Dr. Vivian Poore's epigrammatic allusion to them, in his Harveian oration, as those who "think one guinea-pig of more value than many children," has sunk into the popular mind and elicited a shriek of indignant remonstrance from their chief mouthpiece, Mr. Stephen Coleridge. Their attitude, in fact, by the blessed tendency of all fads to exterminate themselves, has gradually become almost as extraordinary as that of their sister vegetarians. At one of the sessions of the Women's Congress here, one of their leading advocates gravely reminded us that not only were we responsible for all the suffering which we had inflicted on the lower animals in the way of sacrificing them for food, garments, etc., but *also for any suffering which they might inflict on one another*, inasmuch as on man alone rested the responsibility for the introduction of strife into the animal world through his sin in the Garden of Eden. Previous to that all animals were vegetarians! And not a voice was raised in protest against this astonishing logic.

VACCINATION APPOINTMENT.

The Leicester Guardians are still fighting furiously against the inevitable and defying the central authorities by refusing to appoint a vaccination officer. The wise delay of Mr. Chaplin in giving them nearly two months to think it over before actually serving them with the mandamus, has had its effect, for while they were unanimously in favor, two months ago, of going to gaol, and regarded the prospect of martyrdom with great enthusiasm, now it was only after three hours' debate that the resolution to refuse to comply with the mandamus was passed by a vote of 25 to 18, so that there would appear to be hope even for Leicester. Meanwhile vaccination is progressing rapidly under the new act, even in the most pronounced "anti" districts. Hundreds of parents who, like Falstaff, "would not give a reason upon compulsion though reasons were as plenty as blackberries," now that they have been provided with a loop-hole, for the relief of their conscientious scruples, are quietly bringing in not only their newly-born children but three or four or even five older ones who had hitherto defied the vaccinator. The number of vaccinations keeps steadily on at the rate attained some months ago, nearly 60 per cent. more than for the corresponding period of the previous year.

ARMY MEDICAL TONE.

So great has been the warlike enthusiasm of our peaceful profession here in England, that the Government has had to announce that on account of the large number of offers to volunteer for medical service in the field received from surgeons in civil life, it could at present consider no others until further notice. So in spite of her seriously undermanned regular army medical staff, it looks as if the little island still had, as usual, what Mr. Kipling describes as "the luck of the British Army," and would have no difficulty in filling up the gaps in her force with thoroughly competent volunteers, whose enthusiasm would go far to make good their lack of actual experience in the field and camp.

POWER OF MEDICAL OFFICERS

Great satisfaction is expressed in medical circles here over the reported clothing of medical officers, in charge of some of our Californian camps, with executive powers. It is hailed as *the* coming reform which is going to put medical service in war-time, at last, on a really satisfactory basis. So long as mere military men of no sanitary or scientific training whatever are to be left the sole judges of whether measures for the health of the troops shall be carried out or not, the effectiveness of the medical arm in the direction of protecting the health of the soldier is always going to be seriously crippled. If our bitter object-lesson on this point, before Santiago, is going to lead us to take this important step, which will probably serve ultimately as a precedent to the civilized world, our distressing disasters there may be, after all, a blessing to humanity.

FOOD-POISONING.

Two cases of supposed food-poisoning of considerable interest and public importance have been brought to a decision this week, and in both unfortunately the result has been an open verdict. One was the so-called "Inns of Court mystery," which is of double interest to us across the Atlantic both professionally and patriotically, inasmuch as it was a party of Americans who were attacked with symptoms of poisoning after dining together at the hotel of this name, and that the article of food suspected was a can of apricots of Californian production. The conductor of the party of tourists, a Mr. Bartlett, died, and also another guest in the hotel, Mr. Prosser of Birmingham, both with symptoms of toxic gastro-enteritis. All the other cases fortunately recovered. The investigation was most thorough, specimens of all the food used at the dinner being carefully examined, but without discovering anything which could be definitely fixed on as the cause, so the jury had to return the verdict of "death by ptomain poisoning, probably due to the action of bacteria on some article of food partaken of" on that day, with a rider condemning the practice prevailing at the hotel of leaving such articles of food to stand in their open cans for sometimes twenty-four hours before use. (See "Philadelphia," page 1180.)

The other was the even more distressing case of poisoning in the camp at Aldershot, which resulted in the serious illness of twenty-five soldiers and the death of five. In this case, as usual, "American canned goods were first blamed, but the symptoms so curiously resembled those of tyrotoxicon poisoning, that attention was quickly directed to the cheese supplied to the troops. Several samples of this were found to contain abundance of tyrotoxicon, but for some curious reason it appeared impossible to elicit definite evidence that any of the cheese had been consumed, within twenty-four hours, by the men attacked. A curious side-light however was thrown on the situation by the fact that a number of sheep pasturing near the camp had been found dead, and on examining the bodies considerable quantities of cheese were found in their stomachs. This raised a strong suspicion that the men, disliking the taste of the cheese, had thrown it away after perhaps one or two mouthfuls of it, and the sheep picked it up and received its fatal contents. But why no evidence could be got from the men on this apparently simple point is a mystery, unless for some reason they were unwilling to testify, for fear of offending the authorities.

WHISKY CONSUMPTION.

The *Lancet* is greatly concerned over the recent revenue reports which indicate the enormous consumption of whisky in the United Kingdom, and a marked increase in this over previous years. And the return is somewhat staggering, making as it does an average of nearly one gallon of the liquid going under this name—which, as all Americans who have sampled it will testify, is almost like methylated spirit, by comparison with the delicately-flavored Kentucky article—per capita, for

very man, woman and child in the United Kingdom. As might
iave been expected, the death-rate from alcoholism has mount-
d in similar proportion, so that in ten years the increase has
een 82.5 per cent. in males, and in females, *horrible dictu*,
45 per cent. The last item has certainly a most gruesome
ound, but inasmuch as the actual rate is only 97 per million
iving per annum among males, and 59 per million living
mong females, it can hardly be considered a very appalling
r serious state of affairs as yet. And if anyone will take the
rouble to walk through the London back streets and slums,
nd note the type of human animal on which this death-rate
alls, he will find much to console him, if indeed he is able to
uppress an inhuman reflection to the effect that if alcohol is
o eliminate any element of the community, it could hardly
ave made a better choice in the interests of the whole. We
ave at the other end of the scale the encouraging fact that
ot only is the consumption of beer in proportion to whisky
narkedly increasing, but that the demand is steadily growing
or lighter and lighter qualities of the former. The German
ger beer is now to be had at almost every third or fourth bar
n England, and the great firm of Allsop & Co. has just opened
large and expensive new department for the purpose of sup-
lying this class of beer alone. Thoughtful men in the pro-
ession are of the opinion that while the total consumption of
lcohol is increasing, intemperance is steadily diminishing, in
pite of the appalling bulk-figures which can be collected by
otal abstainers. And some of them add also the unorthodox
pinion that total abstinence is now to be regarded as an ex-
eriment which has been tried and failed. In other words,
ne race seems to be painfully but steadily working its way
a condition of equilibrium and temperance in the matter of
lcoholic indulgence, partly no doubt by the steady elimination
those who are unable to attain this balance.

Canada.

(From Our Regular Correspondent.)

Toronto, Oct. 28, 1899.

MEDICAL "ADVERTISING."

The Medical Council of Prince Edward Island, at a recent
eeting, passed the following "Minute."

Whereas, The practice of publishing in the press—whether
ith or without the connivance of the medical man—of so-
lled great cures and brilliant operations has become very
mmon, which practice besides being very disgraceful in itself,
dishonoring to the profession and by its deceptive character
injurious to the public interest; therefore,

Resolved, That the Medical Council, on behalf of the medical
ciety, hereby express its strong disapproval of the practice,
d henceforth will not consider the physician blameless, un-
ss he can clearly demonstrate his non-complicity in such ad-
rtisements; also with a view to the interests of the public,
hich may be deceived and misled by exaggerated and ignorant
atements; also with a view to the protection of honorable
edical men, who may be wrongly accused of complicity; it
also

Resolved, That the press shall be respectfully asked to refuse
sertion in their columns of detailed descriptions of comments
medical and surgical practice, unless such shall be signed
the medical men themselves.

Commenting on the above, editorially, one of the lay week-
es thinks that the "Minute" affects the profession more than
e press, because the press can not be bound by any such,
d will, notwithstanding the "Minute," do its duty on oc-
sion in respect to medical cases as well as to others. It
rther states that the public has no business with these pri-
te operations of surgeons; and the newspapers have certainly
interest in puffing the doctors.

ST. LUKE'S HOSPITAL, OTTAWA.

The report for the past year shows that 914 patients were
nitted to the various wards. Of these, 833 have been dis-
arged, 48 have died, 33 remaining. These patients had an
erage stay of 19.32 days. The class of cases in the institu-
on were nearly all of an acute and curable character, and in
sense chronic. The average number in the hospital each
y was 40.53, which is encouraging considering the accommo-
tion and the early history of the institution. As several en-
red in a dying condition or suffering from mortal wounds—the register shows that 18 of the 48 died in three days after admission—the death-rate is only 3.2. Of the 833 patients discharged, 650 were cured, 164 improved and 19 incurable.

VICTORIAN ORDER OF NURSES.

Lady Aberdeen is in Canada looking into the workings of her pet scheme, the Victorian Order. So far the work has not been disappointing; but there has not been that frenzied rush into its ranks which was anticipated. The main object is the rendering aid in times of sickness to those who are too poor to go to the hospitals and those who refuse to go. No charge is made, but if the people so assisted can afford to contribute to the funds of the association, a fee ranging from 5 to 50 cents is thankfully received. In one month alone, 482 visits were made and of these 204 were non-paying and 278 contributed something. All creeds and nationalities, even Chinese and Armenians, have participated in this assistance and received treatment. Altogether since the order was first commenced in Montreal, 430 patients have been treated, 6432 visits have been made, and 90 members of the medical profession in that city have made use of the order.

INFANT MORTALITY IN MONTREAL.

In regard to the marked mortality in Montreal, as compared with other cities, active measures are being taken by several philanthropic women toward the formation of a society whose aim shall be the prevention of this heavy death-rate among infants whose homes are in the poorer parts of the city. Dr. Laberge is lending himself as the medical health officer of the city, to the movement, and is apparently perfectly satisfied that the society would be instrumental in saving the lives of hundreds. The city will be divided into sections, each section to be regularly visited by medical men, nurses and others, whose duty it "shall be to advise the poor how their babes are to be handled during the heated term, especially when they are attacked by stomachic and intestinal disorders. As the ladies who are getting up this society have offered to contribute to its maintenance liberally, Dr. Laberge suggests that the medical men and others employed by the society shall be paid for their services; then as the society progresses, efforts will be made to supply the very poor with free milk for their infants, as well as free ice for the preservation of the milk.

THE CANADIAN CONTINGENT.

The departure of one thousand citizens of the Canadian Dominion to participate in the wars of the British Empire in South Africa was a notable event of the week. The five or six hundred medical students in Toronto turned out in full force on the day of the parade in this city, to do honor to two of their number who had volunteered for active service in the Transvaal, privates Jordan and Anderson, respectively members of the Toronto and Trinity Medical schools. On account of the large amount of life assurance placed on members of the contingent, many of the examiners for these companies were kept unusually busy for several days.

INCREASE OF LUNACY IN ONTARIO.

The report of the inspector of asylums in Ontario, now being made up, will state that there are more lunatics in the asylums of the province than ever before. It is a well known fact that these institutions in this province are taxed to their full capacity and that there is not enough room in them to house all the lunatics of the province, as some are lying in gaols awaiting vacancies in the asylums; and for others, applications are in but can not be acted on owing to there being a lack of accommodation. Such being the condition of affairs, it surely becomes the bounden duty of the provincial government to set about arranging for the erection of additional accommodation for these people, to provide for the increase. Although the inspector does not attribute the increase to the fact of there being more lunatics in the province, but rather that the government, in making better provision for their maintenance, has more cognizance of the existence of lunacy in the province, he thinks possibly that lunacy may be if anything decreasing throughout the province, but increasing so far as it comes within the knowledge of the government; and that the decrease in totality may be due to the returning tide of prosperity, resulting in less worry and less lunacy.

THE DOUKHOBORS IN THE NORTHWEST.

Dr. William Saunders, director of the government experimental farms, has just returned to Ottawa from a visit to the Doukhobor settlements. He speaks of them as a very industrious and frugal people. They are all vegetarians and will not eat animal food, as they consider it a sin to kill. Most of them, however, will eat fish, butter, cheese and eggs, but as yet they have very little of these concentrated classes of foods. They subsist mainly on bread made from a low grade of flour, with a flour and water soup, vegetables added. Their houses and furniture are very primitive in their construction, the beds being made of a series of poplar poles about six feet long and three or four inches in diameter, placed close together along one or both sides of the house with the ends to the wall. Over these some hay is placed and on this a thick piece of felt. At present many of these houses are occupied by from ten to twenty people, and in some of the larger dwellings the inmates number thirty or forty. Each village is provided with a steam bath-house, in which steam is generated by pouring water on heated stones. In this manner profuse perspiration is brought about, and in the absence of towels, the body is whisked briskly with a bunch of the small branches of the mossy cup oak. They are further described as being of cleanly habits, using neither liquor nor tobacco. Even on their vegetable diet, they appear to be strong and hardy and will no doubt prove in time a desirable class of people in the community and assist much in that country's development.

Philadelphia.

Steps are being taken to revive the Woman's Health Protective Association, which died some time ago owing to factional disturbances.

The health authorities here have seized 12 diseased cattle. Six animals were promptly slaughtered and found to be suffering from tuberculosis. They came from New Jersey.

The Board of Directors of the Episcopal Hospital has selected the following resident physicians of that institution: Samuel M. Ziegler, S. E. Moore, W. C. Drein, W. A. Steel and George B. Dandy.

A meeting of the Faculty of Medicine and Board of Trustees of the University of Pennsylvania was recently held for the purpose of determining the appropriation for the new laboratories to be built by that institution. Plans and specifications have already been drawn.

During the past year considerable improvement has been made at the League Island Navy-Yard, the barracks enlarged and a laboratory added. The number of men who applied for service at the United States ship *Richmond* was 2135, of whom 907 were received and 1228 rejected.

The number of deaths occurring in the city during the week was 342, a decrease of 46 over that of last week and of 6 over that of the corresponding period of last year: The principal causes were: apoplexy, 15; tuberculosis, 43; pneumonia, 27; diphtheria, 19; scarlet fever, 4; typhoid fever, 4.

In the case of Professor Bartlett, of this city, who died in London last year under somewhat peculiar circumstances, a coroner's jury returned a verdict on October 21 to the effect that death resulted from gastro-enteritis superinduced by ptomain poisoning. The foodstuff was eaten at the Inns Court Hotel of London, July 26. At the time a number of other Americans were also affected. (See also page 1178.)

The statement of Dr. T. D. Crothers, Hartford, Conn. (see page 1165), "of the 3244 practitioners of whom he knew 681, or 21 per cent. were using opium," so far as it applies to Philadelphia is incorrect. On the contrary, if one should go to hospitals, in search of this information, it would probably be found that the opium habit is not as prevalent as was formerly the case. (See also page 1178.)

Whether the automobile is destined to take the place of the horse and carriage in the City of Penn remains to be seen. At present many designs have been placed on the market and the advantages of each explained. As a sanitary measure their introduction needs little else to be desired except that some preaution might be designed by which to relieve the follower of these vehicles of the trail of dust stirred up by the broad surface of the tires. Already one of the West Philadelphia physicians has invested in one of the vehicles, and others may follow his example.

The question as to how the cases of typhus fever gained entrance to this city on the vessel *Aragonia* (see Journal, October 21, p. 1051), is still eliciting considerable interest. It would appear that when the vessel landed at the quarantine station, the disease had not developed to that extent that a differential diagnosis was possible. It is true that prodromal symptoms were present, but that did not suffice in discriminating in favor of typhus fever. One of the physicians who saw the cases early in the onset was led to believe that they were cases of cerebrospinal fever. The quick work in isolating the cases, and the placing of a strong cordon around those who had been placed in quarantine had a soothing effect, as well as limited the number of cases. No subsequent ones have developed. At the last meeting of the Philadelphia Pathological Society Drs. W. M. Welch and David Riesman presented a paper on the autopsy findings in the fatal case.

Diphtheria cases reported last week numbered 89, with 13 deaths; this week a steady increase has been shown and 103 cases are recorded with 19 deaths, or a mortality of 17 per cent., which might have been expected at the beginning of the school session when the germs of the past summer have been allowed to harbor in their favored haunts. While more care is exercised in regard to the management of the day pupils, we are informed that those who attend the same schools at the night sessions do so with a rather free hand. The Bureau of Health has ordered an inspection of certain school houses. The cases of diphtheria during the past year numbered 3065, with 624 fatal, a mortality of 22 per cent.

Judge Pennypacker has found that the University of Pennsylvania's origin dates back to 1740, when a charitable school was founded in Philadelphia. Part of the building was first utilized by George Whitefield, the famous preacher, while the other was used as a charity school and for the instruction of children in regard to the Christian religion. Whitefield filed a deed in 1749 conveying the building to the Academy to be maintained as a charity school. In 1753 it became the College of Philadelphia and later the University of Pennsylvania. The clause in the charter of 1791, providing for free scholarships in the institution, is still in vogue at the University.

Cases of variola are yet being found in certain districts of the city. In most cases the patients become startled when told that they are suffering from smallpox. In a recent paper read before the Philadelphia County Medical Society Dr. W. M. Welch offered an explanation as to how the first case gained entrance to the city. In most places in the South smallpox has been very mild, and it is believed that persons affected were allowed to pick cotton, when the scales would drop off, to be subsequently placed in bales. In his opinion one such case originated from a bale of cotton shipped to this port. Most of those affected have been negroes. What is now puzzling many is that the hospital for infectious diseases is in an overcrowded condition, and should a severe epidemic break out it would be a question as to where the patients could be properly isolated. As has been frequently mentioned in the Journal, there has long been a strong effort to have the Municipal Hospital removed to another site, where a larger hospital could be erected. Another question of importance is that an effort will doubtless be made to allow medical students to visit this hospital, where they could easily acquire the necessary knowledge in differentiating between smallpox and other eruptive disorders.

Baltimore.

Dr. N. G. Keirle, Jr., has been appointed assistant resident physician at Bayview Hospital.

Dr. Henry Hodges Stansbury, of Cumberland, was married October 25 to Miss Lily Miller, in this city.

Dr. Harry Lee Smith has been elected lecturer on bacteriology in the Woman's Medical College.

The Maryland General Hospital—connected with the Baltimore Medical College—has received a bequest from the late George R. Goldsborough, Easton, of $6000 for the endowment of a bed for the white sick of Talbot County, Md.

Richard Grady, M.D., D.D.S., has been appointed dentist to the United States Naval Academy at Annapolis, at a salary of $1600. There have been but two incumbents of the office since the founding of the Academy in 1845, Dr. Walton, who resigned, having served since 1856.

Drs. Hartigan and Gabriel A. Trad have been appointed sident physicians at the City Hospital.

The Hospital for consumptives will make an addition which ill include modern flush water-closets and enameled bath-tubs, nd in the spring will erect another cottage.

CHISEL EMBEDDED IN FACE AND THROAT FOR ELEVEN WEEKS.

On October 25, at St. Joseph's Hospital, a chisel was removed rom the face and throat of Charles C. Baker by Prof. L. Mc ane Tiffany of the University of Maryland. The chisel, hich was 5½ inches long, 1 inch wide and ¼ inch thick, had een driven into the face, sharp end foremost, just to the right f the root of the nose. Mr. B. was at the time operating a team-driven machine in the shops of the Geiser Manufacturing ompany, Waynesboro, Pa., and was bending over with his ead close to the machine. In the latter were two chisels of teel revolving at the rate of 1200 revolutions per minute. The hisels in some way became detached and one of them was shot ith great force, entering as stated above, flat side foremost, estroying the right eye, and pasing downward and backward, urying itself out of sight and narrowly missing the jugular ein. The wounds were dressed by a physician and soon healed, ut about three weeks ago the patient began to complain of tiffness in the muscles of the neck, and paresis of the nerves f the face and throat developed, and he was brought to Balti- nore for treatment. The head was pinioned in a bent-forward osition, speech indistinct, swallowing difficult and impossible or solids. By oral examination Dr. T. could feel the chisel, nd, on depressing the tongue and raising the soft palate could lso see it. X-rays determined the exact position, already indi- ated, the sharp end lying against the fifth cervical vertebra nd the blunt end opposite the middle turbinated bone. From he difficulty of swallowing the man had become greatly emac- ated. The chisel had to come out by the route by which it ntered, so tracheotomy was performed under cocain, and the ext day the patient was put under chloroform and inverted. n incision was then made extending from the eyebrow along he right side of the nose and through the median line of the pper lip to the mouth. The nose, with skin, muscles, etc., was eparated from the bone and carried over to the left, also the asal bones; the tissues to the right of the incision were in ke manner drawn over in that direction. With a bone forceps portion of the superior maxilla was cut away, exposing the hisel lying about 1½ inches below the surface. Removal, which was much less difficult than had been anticipated, was ffected with a pair of strong forceps. The nasal bones were eplaced and the soft parts united by sutures. The patient was doing well at last report.

Chicago.

Since the opening of the schools nearly two thousand cases f diphtheria and scarlet fever have been reported to the Health Department. These diseases have been spreading so apidly that the eight inspectors have been unable to promptly isinfect the houses. As a result many convalescents have re- urned to school and spread the contagion. Many of the recent ases were caused by contact with some of Dowie's "patients." Unless the Board of Education takes action in the matter, the ity council will be asked to appropriate a sum sufficient to mploy additional inspectors.

A regular meeting of the Physicians' Club was held October 30. The sanitary drainage canal was the topic of the evening. Remarks were made by Chief Engineer Isham Randolph, Lyman E. Cooley and Health Commissioner Reynolds. The following resolution offered by Dr. C. S. Bacon was adopted:

Resolved, That the Physician's Club of Chicago commends all efforts aimed at the restriction of infectious diseases in the community, and specifically believes in the plan of medical inspection of the schools now under consideration by the Board of Education of this city. This plan is in accord with the present state of medical knowledge, and we believe that by its faithful execution, sickness and mortality from the acute infections will be materially reduced.

At a meeting of the School Management Committee of the Board of Education, October 26, Dr. W. S. Christopher, one of the trustees, urged the appointment of medical inspectors to prevent, as far as possible, the spread of contagious diseases in the public schools. The following recommendations were made by the Committee: That the Civil Service Commission be requested to hold a special examination and certify to this Board fifty medical school inspectors. That the Board appoint the fifty inspectors as certified, at a salary of $50 a month, and attach them to the Department of Compulsory Education, and assign them to duty under the direction of the Commissioner of Health, the inspectors to remain on duty throughout the school year, except during vacations and during the month of June; total cost not to exceed $20,000 per annum. That the Board hereby directs that all pupils who have been absent from school continuously for four days or longer, shall be examined by the medical school inspectors, and cultures made from their throats for examination by the City Health Department, and shall be pronounced free from infection by the Department before being allowed to resume class work.

New York City.

By the will of the late ex-Justice Charles P. Daly, $5000 is left to the Northern Dispensary of New York.

Notwithstanding the protest of the Tenement House Committee of the Charity Organization Society, and other citizens interested in tenement house reform, the mayor has signed the new building code recently rushed through the Board of Aldermen and Municipal Assembly. The enactment of this is considered a step backward by the best architects and other experts who have examined it.

The average death-rate for six weeks ending October 14 has been 17.13 per thousand, as against 20.78 for the corresponding period last year. The lowest mortality record for many months was for the week ending September 30, when the death-rate was 15.87. Comparing the figures of the six weeks ending October 14 with the previous six weeks, a marked decline in the death-rate from all prevalent diseases except typhoid fever and pneumonia is noted, this decrease being most noticeable in the deaths from diarrheal diseases, which diminished from 261 for the last week in July to 36 for the week ending October 14. Somewhat strangely, it is noted that whooping-cough was unusually prevalent during the summer months. For the period mentioned, the deaths from diphtheria decreased from 23.5 to 21.6 per thousand, that of measles from 7.5 to 6, of scarlet fever from 4 to 3.3, and those due to pulmonary tuberculosis from 143.5 to 138.3. The weekly average, on the other hand, from typhoid fever, increased from 13.6 to 18.3, and from pneumonia from 82 to 107.

In recognition of the services rendered by Dr. E. Eliot Harris, chairman of the Committee on Legislation of the New York State Medical Association, in connection with the dispensary legislation of last winter, his brethren in the profession presented him with a silver tea service recently.

Louisville.

Health Officer Allen is making every endeavor to influence physicians of the city to make proper returns to the health office, in order to bring the department up to the standard and carry out public health work. The ordinances quoted are thoroughly comprehensive and include the following—there being a penalty of from $25 to $50 for violation: Reporting the births by physician, midwife or other person assisting at a birth within seven days thereafter. These include the date of birth, sex, color, name of parents and maiden name of mother; reporting cases of consumption, whooping-cough, typhoid fever—these for the use of the Department and in no case to be given out for publication; reporting diphtheria, croup, scarlatina, smallpox, varioloid, and prescribing length of quarantine These have been enacted at various times and are now included in one notice to Louisville physicians. A more comprehensive death return would be an improvement for statistical records, as well as department information. It would be well also for a closer scrutiny to be made of the causes of death given, those in the published death returns being incomplete, unscientific and useless as far as statistics are concerned. Such as the following are given as causes of death: hemorrhage, cancer, bowel trouble, consumption.

The new wing of St. Joseph's Infirmary has been completed and thrown open. It is three stories in height, has three large wards and many private rooms, parlor, offices and a new operating-room. This latter was much needed as it was frequently inconvenient with only one operating-room. The house is open to every physician, there being no visiting staff, and emergency cases are frequently encroached on the time of those who had engaged the room for a certain time. Louisville is now well equipped with hospitals and infirmaries.

The formal transfer of property was made to the medical department of Kentucky University on October 15 by Captain Miller, who had used the property as a residence. It is admirably equipped—a palatial home—and the needed repairs will be made at once, to be ready for the beginning of the session, January 1. A new operating amphitheater will be built and a few minor changes made.

Book Notices.

Pulmonary Tuberculosis. Its Modern Prophylaxis and the Treatment in Special Institutions and at Home. Alvarenga Prize Essay of the College of Physicians of Philadelphia for the Year 1898. Revised and Enlarged. By S. A. Knopf, M.D. (Paris and Bellevue, N. Y.). With Descriptions and Illustrations of the Most Important Sanatoria of Europe, the United States and Canada. Philadelphia: P. Blakiston's Son & Co. 1899.

This volume, which, as its title page shows, is substantially the same as the Alvarenga Prize Essay for 1898, is probably the best general statement of its subject now extant. In the flood of literature on tuberculosis at the present time, it is well to have a fair, scientific, standard monograph on the subject, and this comes as nearly meeting this demand as any work that has yet appeared. It has, moreover, the very great advantage of being written in a readable and technical style, so that it is in its present form available as a semipopular treatise on its subject. While some opinions here expressed may be modified with advancing knowledge, the author is generally on the safe side, which is a merit in a work of this kind. Another merit is the usual avoidance of extreme statements or the advocacy of such measures as would work serious hardship and which are now being advocated by some. Dr. Knopf, for example, does not favor the compulsory notification of tuberculous cases. It is quite possible that at some future time we may look back to some of the recommendations and advice that now seem reasonable, and consider them as extreme, but just now they are in the fashion and so far as they are practicable they are on the safe side. We regret, however, to see that, by what must be an oversight, the mortality from consumption is magnified tenfold in the table on pages 27 and 28. It should certainly not read, "the mortality from pulmonary tuberculosis for each *thousand* persons living" (italics ours).

Probably the really successful tactics in combating consumption are to be found in improved general sanitation and in building up a healthy and resistant vitality in the race. This is recognized by the author, though the fact is masked a little by the space given to preventive details in the case of the disease already existing. He does not underestimate the curability of the disorder, and the facts we learn are certainly encouraging. The book is, as already stated, likely to be a standard work on its subject for some time to come.

Practical Uranalysis and Urinary Diagnosis: A Manual for the Use of Physicians, Surgeons and Students. By Charles W. Purdy, M.D., LL.D. Fourth, Revised Edition. With Numerous Illustrations, including Photo-engravings and Colored Plates. In one Crown Octavo Volume, 365 pages, bound in Extra Cloth, $2.50, net. Philadelphia, New York and Chicago: The F. A. Davis Co.

The author, in the preface to the present edition, states that he has made many changes, particularly in the chapters on the chemistry of the urine, to keep abreast with recent advances. In general he has brought his book to a very high standard of excellence and utility. Still there are a few pages which might be improved on. For the determination of uric acid, for instance, the author recommends Heintz' method of precipitation by hydrochloric acid. This procedure, according to Salkowski, Naisch and others, is inaccurate. Besides, it requires a determination by weighing on fine chemical scales, which are almost never in the possession of the general practitioner In a text-book for the use of the latter, it would undoubtedly be better to recommend and give in detail Arthand and Butte's method of titration with cuprous hyposulphite, with a 10 per cent. solution of potassium and anthoyenate as indicator. This latter method, according to the experience of the reviewer, is comparatively simple, reliable and accurate.

What Purdy gives as the "author's method" of determination of sugar is a modification but not an improvement on the orthodox titration with Fehling's normal solution. If the latter is kept in two separate bottles—one containing the solution of the sulphate of copper, the other one the caustic potash and the tartrate of sodium and potassium—a mixture of equal parts of the two component fluids will always furnish an exact basis for the titration, while all so-called permanent mixtures are, in fact, not stable. In Purdy's modification the calculation is besides more complicated, than if one uses 20 c.c. of Fehling's normal solution, the cupric hydrate of which will be reduced by 100 mg. of grape sugar. The book is profusely illustrated.

General Pathology, or The Science of the Cause, Nature and Course of the Pathological Disturbances Which Occur in the Living Subject. By Ernst Ziegler. Translated from the Ninth Revised German Edition, by Drs. Theodore Dunham, Edward M. Foote and others. Editor, Dr. Albert H. Buck. New York: William Wood & Co. 1899.

Besides an editorial note in regard to the ommission of the bibliographic references of the German edition, there is nothing in this volume to indicate the publication in this country of any previous translation of Ziegler's Pathology. We may therefore, accept it as a new translation, at least in large part. Two chapters, iv and vii, on retrograde tissue changes and tumors, respectively, have been entirely rewritten from the eighth edition, and certain changes made in the classification, etc., while the work as a whole has been thoroughly revised. It appears to be very fully brought up to include the most recent researches, and in its present form is a very valuable addition to our medical literature. The illustrations have also been increased in number and add materially to the value of the work. The omission of the bibliographic lists is, as the editor states, of little importance to the average student and, therefore, not a very material drawback to the work as a text-book. It is, however, something of a question whether their insertion would not have been fully appreciated by a considerable proportion of those who will use the work for reference or otherwise.

Manual of Bacteriology. By Robert Muir, M. A., M. D., F.R.C.P.Ed., Professor of Pathology, University of Glasgow, and James Ritchie, M.A., M.D., B.Sc., Lecturer in Pathology, University of Oxford. Second Edition. 126 Illustrations. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company. 1899.

In this second edition the authors have, as they say, made no change in the plan of their work, but have carefully revised their text and incorporated the results of recent researches, thus considerably increasing the size of the volume. So far as we can see it is an excellent statement of the principal facts and theories regarding bacteria and their pathologic relations to the human species, and as nearly up to date as could be reasonably expected. Some subjects are treated only briefly but that is to be looked for in a work of this compass.

Deaths and Obituaries.

Simeon S. Todd, M.D., Kansas City, Mo., the first physician of and first president of the Board of Health of Kansas City and one of the founders of the Kansas City Medical College and founder of the College of Physicians and Surgeons in 1869 died at his home, October 19, aged 73 years. He was a graduate of the Indiana Medical College, served as surgeon in bot the Mexican and Civil wars, and wrote a number of works o obstetrics, one of which won him a fellowship in the Societ of Science Letters and Arts, London, in 1887.

P. A. Boyer, M.D., Selins Grove, Pa., died October 23, at th age of 43. He was a graduate of the University of Pennsy-vania Medical Department, 1881, and at the time of his deat a member of the State Board of Vital Statistics.

S. VEIRS MACE, M.D., died October 14, near Rossville, Md., from heart disease. He was 39 years old and a graduate in medicine of the University of Maryland, class of 1884.

THOMAS JEFFERSON JACKSON, M.D., College of Physicians and Surgeons, Baltimore, Md., 1879, died October 26, aged 50 years. He was born in Baltimore County, Md., was a member of the AMERICAN MEDICAL ASSOCIATION and well known in medical and fraternal circles. He also served a term in the Springfield Board of Education.

JOHN B. HIBBEN, M.D., Kansas City, Kan., died October 27, from disease of the kidneys. Dr. Hibben was head physician of the Modern Woodmen of America for Kansas and Oklahoma, and consulting physican at the Missouri Pacific Hospital in Kansas City, Mo. He was 46 years old.

HENRY JUDSON KELLY, M.D., New York City, a graduate of the College of Physicians and Surgeons, aged 42 years, died of pneumonia, October 15. He had been connected with the New York Hospital since his graduation, and was a member of the faculty of the Post-Graduate Polyclinic school.

DAVID CLARK CARD, M.D., Willimantic, Conn., aged 77, died at his home, October 16. He was a graduate of the New York University of Medicine, 1849, and in the Civil War was assistant surgeon of the First Conn. Heavy Artillery.

JOHN BENBOW, M.D., Gilliam, Mo., died October 17, aged 48 years....S. S. Christy, M.D., Pittsburg, Pa., October 13.... H. P. Eaton, M.D., Baltimore, Md., October 15, aged 88 years. ....S. B. Ellis, M.D., Dayton, Ohio, October 21....George Hamilton, M.D., Millport, Ohio, October 18, aged 45....C. R. Jakes, M.D., Wilmington, Del., October 26, aged 45....A. T. Lincoln, M.D., Dennysville, Me., October 18....James McTaggart, M.D., Detroit, Mich., October 18....W. R. Maddox, M.D., Washington, D.C., October 26, aged 86....H. D. Robertson, M.D., San Francisco, Cal., October 19....W. T. Ropp, M.D., Delaware, Ohio, October 20....Philip Scheu, M.D., New York City, October 21, aged 41 years....J. J. Seward, M.D., Erie, Pa., October 22, aged 43 years....S. A. Sherman, M.D., Cherokee, Iowa, October 14....Robt. P. Smith, M.D., Santa Rosa, Cal., October 19, aged 50....T. W. Thornton, M.D., Kansas City, Mo., October 23, aged 70.

DEATHS ABROAD.

A. C. PAGE, M.D., Truro, N.S., died October 23, aged 72 years. He was graduated in medicine from Harvard, in 1856, was a past president of the Nova Scotia Medical Society, and under the provincial government had been inspector of hospitals and asylums, up to one year ago, when he resigned on account of ill health.

Miscellany.

Defensive Reaction of the Organism.—Professor Soulier of Lyons attributes the agglutination reaction to the general plan of defense of the organism against infections, which he outlines as follows: the general defensive reaction of the organism occurs in the blood, liver, kidney, visual field and fever. In the blood, the agglutinating reaction, Pfeiffer's phenomenon, the alkalinity of the serum, the leucocytosis for the purpose of augmenting phagocytosis and the resistance of the red corpuscles, are all facts indicating an energetic defensive reaction. In the liver, the coloration of the feces by bilirubin, the presence of urobilin in the urine, alimentary glycosuria from which we can estimate the glycogenic function of the liver, are all significant indications of the activity of the organic defense, as also in the kidneys, the urotoxy, azoturia, diazo-reaction and elimination of aromatic substances. Contraction of the visual field suggests an unfavorable prognosis. Fever below 39 C., accompanied by a moist skin, is a most precious indication of defense and oxidation processes. The scheme thus sketched is a guide to therapeutics, and Soulier considers intravascular injections the promptest means to place the medicinal agent at once where it will most effectually sustain the elements of the organism in their struggle.—*Progres Med.*, x, 30.

The Plague in Art.—Six full page engravings are given in *Sem. Med.*, September 27, of the chief works of art representing the plague at various epochs: Saint Rocco, by Parmesan, 1503-40, pictures the characteristic lesions on the thigh, and Tintoretto's drawing, a group of persons affected. Mignard's large painting, 1610-95, represents the plague in Judea, when 70,000 men died in the three days' plague (II Sam., xxiv). The chief figure in the foreground is a young surgeon who is sinking to the ground in a dying condition, while engaged in opening the abscess in the axilla of a dying woman. "The Philistines Succumbing to the Plague" is a painting 4½ by 6 feet, in the Louvre, by Poussin; 1630. The Philistines had carried off the Ark of God and placed it in the Temple of Dagon, and all the men of the city were "smitten with emerods in their secret parts." (I Sam., v). Five rats are given prominent place in the picture, as their priests and diviners directed them to return the Ark with a trespass offering to consist of "five golden emerods and five golden mice, according to the number of the lords of the Philistines"—"images of your emerods and of your mice that mar the land." "Troy's Plague at Marseilles" was painted in 1722, and is now in the Marseilles museum. It is a striking picture of the seacoast city, representing the scene when Chevalier Rose assumed command of the convicts sent from Toulon to clear the city of the piles of corpses of plague victims. Another large painting in the Louvre depicts Bonaparte visiting the plague victims at Joppa in 1799. While his companions hold cloths to their noses, the general walks erect and even puts his hand on the plague victim who is showing him the lesion in the axilla. Raphael's famous plague picture is not represented, as it was impossible to obtain a good cut of it for reproduction. (For bubonic plague in literature, see JOURNAL, xxviii, p. 716.)

Intoxication with Antipyrin.—Stomatitis and eruptions (*Jour. de Med. de Paris*, October 8) have been reported following the use of antipyrin; Granl noticed on himself a vesicular stomatitis, an erythema on the knees and thighs and eczema of the scrotum on three different occasions of ingestion of antipyrin. Collapse after five grams, once after one gram, has been reported; also the death of two patients with arteriosclerosis and angina pectoris after the injection of one gram. In a case of whooping-cough there was somnolence and spasms after administration of 1.20 gram in three doses, during three weeks. A child had fever at 40.8 *c.*, and a two-hour chill after two doses of a gram.

Queries and Minor Notes.

AN UNETHICAL PRACTITIONER.

SAN FRANCISCO, CAL., Oct. 17, 1899.

To the Editor:—Will you kindly answer the following questions? I am intending to advertise as a specialist of venereal diseases—male only—and solicit custom through the newspapers and by circulars. I do this simply to obtain custom, and not to sell so-called "cure-alls," or other compounds, ready-made mixtures or prescriptions. I will treat every patient individually as near as I can, and my judgment and experience dictate, according to the treatment as laid down in the works of Bumstead, Van Buren and Keyes, Taylor, Durkee, Acton, Lydston, Ricord, Hammond, Hutchinson, Curling, Von Zeissl, Gross, and many others of less note. My "practice," you see, will be regular, although my means of obtaining it is unethical. Now as to the whyfore of this long preamble: I wish to know if my practice comes under the ruling of the Internal Revenue Collector, under "Schedule B," which makes it obligatory to stamp "All mixtures, or prescriptions by whomsoever sold, the demand for which is created by circulars, circular letters or public advertisements," etc., or does the above "mixtures or prescriptions" refer to already-compounded mixtures or medicines, that are ready to hand out, or send by mail or express, and not compounded to fit the conditions as represented in each individual case? Yours very truly, T. C.

ANSWER:—We do not feel like giving advice to a practitioner who admittedly follows unethical methods, and are happy to say that in this case we do not feel competent. The Commissioner of Internal Revenue can attend to the case if the revenue law is violated, and he is the proper authority to be consulted.

METHYLENE BLUE IN INSANITY.

JACKSON, LA., Oct. 15, 1899.

To the Editor:—I am very much interested in the treatment of insanity or acute mania with methylene blue. I have difficulty in using it hypodermically. A practical non-irritating formula for the hypodermic use of this would be highly appreciated. Very respectfully, J. W. L.

ANSWER:—There is no solution of methylene blue which is non-irritating when used hypodermically. The drug, moreover, is practically valueless, in our opinion.

SANATORIUM WANTED.

SULLIVAN, IND., Oct. 27, 1899

To the Editor:—Could you send me the address of one or more sanatoriums located in the south, with rates within the reach of a person in moderate circumstances? The patient I desire to send has a lung trouble, not tubercular, at least the family history, personal examination or microscope does not reveal such. WALTER N. THOMPSON.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from October 19 to and including Oct. 26, 1899:

Amos W. Barber, acting asst.-surgeon, from Cheyenne, Wyo., to duty at Fort D. A. Russell, Wyo.

William J. Boyd, acting asst.-surgeon, from Fort Riley, Kan., to duty in the Department of California.

Alfred E. Bradley, major and surgeon, U. S. Vols., member of a board convened at St. Paul, Minn., to examine officers for promotion.

John Carling, acting asst.-surgeon, to accompany the 47th Vol. Inf. from New York City to Manila, P. I., where he will report for duty in the Department of the Pacific.

Walter Cox, lieutenant and asst.-surgeon U. S. A., member of a board convened at Fort Riley, Kan., to examine officers for promotion.

George D. DeShon, major and surgeon 11th Cav. Vols., sick leave granted.

Charles M. Gandy, captain and asst.-surgeon, U. S. A., from Fort Slocum, N. Y., to accompany the 43d Inf. Vols. to Manila, P. I., where he will report for duty in the Department of the Pacific.

Robert J. Gibson, major and surgeon, U. S. A., member of a board at San Francisco, Cal., to examine officers for promotion.

Stephen M. Gonzalez, acting asst.-surgeon, to report to the Superintendent Army Transport-Service for transportation to Porto Rico.

Albert Hartsuff, lieutenant-colonel and deputy surgeon-general U. S. A., member of a promotion board at Fort Sheridan, Ill.

Chas. L. Heizman, major and surgeon, U. S. A., member of a promotion board at Fort Sam Houston, Texas.

Henry F. Hoyt, major and surgeon, Vols., sick leave extended.

D. J. Johnson, acting asst.-surgeon, from Fort Strong, Mass., to Fort Slocum, N. Y.

Richard W. Johnson, captain and asst.-surgeon, U. S. A., member of a promotion board at Fort Sheridan, Ill.

DeWitt C. Jones, acting asst.-surgeon, member of a promotion board at St. Paul, Minn.

James M. Kennedy, captain and asst.-surgeon, U. S. A., member of a promotion board at San Francisco, Cal.

Donald P. McCord, acting asst.-surgeon, from Vancouver Barracks, Wash., to duty in the Department of California.

Allen D. McLean, acting asst.-surgeon, from Detroit, Mich., to duty at Fort Wayne, Mich.

Henry Pick, acting asst.-surgeon, to accompany the 47th Inf. Vols., from New York City on the transport *Thomas*, to Manila, P. I., where he will report for duty in the Department of the Pacific.

Charles Richard, major and surgeon, U. S. A., member of a promotion board at Fort Riley, Kan.

George H. Richardson, acting asst. surgeon, from Washington to duty in the Department of California.

Samuel Q. Robinson, major and surgeon, U. S. A., to report for treatment at the General Hospital, Hot Springs, Ark.

Louis P. Smith, lieutenant and asst.-surgeon, U. S. A., from Fort D. A. Russell, Wyo., to duty in the Department of California.

Benjamin L. Ten Eyck, captain and asst.-surgeon, U. S. A., sick leave granted.

Herbert G. Thornburgh, acting asst.-surgeon, from Cleveland, Ohio, to duty in the Department of California.

W. R. Van Tuyl, acting asst.-surgeon, from Leavenworth, Kan, to duty at Fort Leavenworth, Kan.

Odillion B. Weed, acting asst.-surgeon, from Fort Wayne, Mich. to Fort Niagara, N. Y., to accompany the 42d Inf. Vols., to the Philippine Islands.

Charles Wilcox, captain and asst.-surgeon, U. S. A., member of a promotion board at Fort Sam Houston, Texas.

A. D. Williams, acting asst.-surgeon, from Washington, D. C., to Jacksonville, Fla., for annulment of contract.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Oct. 27, 1899:

Medical Director M. C. Drennan, promoted to medical director.

Medical Inspector J. C. Wise, ordered to duty as member of the naval examining board, Washington, D. C., November 1.

Surgeon W. A. McClurg, detached from duty as member of the naval examining board, Washington, D. C., November 1, and ordered home and to be ready for orders for sea service.

P. A. Surgeon C. E. Riggs, ordered to the marine recruiting rendezvous, New York, November 1.

Medical Director M. C. Drennan, retired October 24; section 1453 Revised Statutes and section 11, Navy personnel law.

Medical Director C. J. Cleborne, detached from duty in charge of the naval hospital, Philadelphia, Pa., November 1, and ordered to Washington, D. C., November 2, for examination for retirement and then home to wait orders.

Medical Inspector R. A. Marmion, ordered to duty in charge of naval hospital, Philadelphia, Pa., November 1.

P. A. Surgeon C. H. T. Lowndes, detached from the *Princeton* and ordered home by the first public conveyance.

Asst.-Surgeon O. M. Eakins, appointed from October 21.

Medical Inspector J. C. Boyd, promoted to medical inspector.

Asst.-Surgeon R. C. Holcomb, detached from duty at the Naval Academy, Annapolis, Md., and ordered to the *Solace*, November 9, for duty in connection with battalion of marines for Manila.

Asst.-Surgeon R. Spear, detached from the *New York* to home and sick leave two months.

Asst.-Surgeon M. V. Stone, detached from the *Brutus* and ordered to the Island of Guam.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Oct. 26, 1899.

Surgeon Fairfax Irwin, to report at Washington, D. C., for special temporary duty.

Surgeon C. E. Banks, granted leave of absence for four days.

Surgeon J. J. Kinyoun, to inspect unserviceable property at San Francisco, Cal.

P. A. Surgeon G. M. Guiteras, detailed as temporary Quarantine Officer at Havana, Cuba.

P. A. Surgeon G. B. Young, to proceed to Baltimore, Md., for special temporary duty.

P. A. Surgeon M. J. Rosenau, to rejoin station at Washington, D. C.

P. A. Surgeon E. K. Sprague, detailed to represent service as technical delegate at meeting of American Public Health Association (Laboratory Committee) at Minneapolis, Minn., Oct. 30 to Nov. 3, 1899, inclusive.

Asst.-Surgeon L. E. Cofer, relieved from duty at Mexico, Mexico, to take effect on or about Nov. 15, 1899, and to rejoin station at San Diego, Cal., transferring command thereof to Asst.-Surgeon C. E. Decker, then to proceed to San Pedro, Cal., and assume command of the service.

Asst.-Surgeon John McMullen, to rejoin station at Louisville, Ky.

Asst.-Surgeon M. H. Foster, to inspect unserviceable property at Port Townsend, Washington.

Asst.-Surgeon V. G. Heiser, to proceed to Alexandria and Cairo, Egypt, for special temporary duty.

Acting Asst.-Surgeon E. B. Hallet, granted leave of absence for six days.

Hospital Steward S. W. Richardson, granted leave of absence for ten days from Nov. 14, 1899.

Hospital Steward F. H. Peck, to proceed to Miami, Fla., for special temporary duty.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Oct. 27, 1899:

SMALLPOX—UNITED STATES.

Massachusetts: Butler, September 30 to October 18, 2 cases, 1 death; Everett, October 14 to 21, 1 case.

Michigan: Saginaw, October 14 to 21, present in five localities.

Montana: Butte, September 30 to October 18, 2 cases, 1 death.

New York: New York, October 14 to 21, 3 cases.

Ohio: Cleveland, October 14 to 21, 5 deaths

Texas: Galveston, October 20, 1 case.

Virginia: Alexandria, October 20, 1 case; Portsmouth, October 19, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, August 1 to 31, 1 case, 1 death.

Austria: Prague. September 23 to October 7, 5 cases.

Belgium: Antwerp, September 25 to October 16, 4 cases, 4 deaths.

Brazil: Rio de Jaueiro, August 11 to 25, 180 cases, 75 deaths.

Greece: Athens, September 30 to October 7, 8 cases, 3 deaths.

India: Bombay, September 19 to 26, 5 deaths; Madras, September 16 to 22, 1 death.

Russia: Moscow, September 23, 1 case, 1 death; Odessa, September 5 to October 7, 7 cases, 2 deaths; St. Petersburg, September 23 to 30, 3 cases, 1 death; Warsaw, September 23 to 30, 5 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Key West, October 16 to 27, 61 cases, 4 deaths; Miami, October 23 to 30, 12 cases.

Louisiana: New Orleans, October 21 to 25, 7 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Argentina: Buenos Ayres, August 1 to 31, 1 case, 1 death.

Brazil: Rio de Janeiro, August 11 to 28, 3 cases, 6 deaths.

Cuba: Havana, October 5 to 17, 15 cases. 9 deaths; Matanzas, October 10, suspected; Santiago, September 23 to 30, 1 death.

Mexico: Tampico, September 22 to 29, 2 cases, 1 death; Tuxpan, October 3 to 16, 15 deaths; Vera Cruz, October 12 to 19, 2 deaths.

Straits Settlements: Singapore. September 2 to 9, 4 deaths.

Teneriffe: Santa Cruz, September 16 to 23, 2 cases, 2 deaths.

Turkey: Erzeroum, September 16 to 23, 5 cases; Smyrna, September 25 to October 1, 1 death.

CHOLERA.

India: Calcutta, September 8 to 16, 2 deaths.

PLAGUE.

China: Hongkong, September 2 to 9, 13 cases, 12 deaths; Yinkon, August 10, reported.

Egypt: Alexandria, September 25 to October 1, 1 case, 1 death.

India: Bombay, September 19 to 26, 62 deaths; Calcutta, September 8 to 16, 46 deaths; Karachi, September 16 to 23, 4 deaths.

Madagascar: Tamatave, September 8 to 16, 2 cases, 2 deaths.

CHANGE OF ADDRESS.

Anderson, T. S., from Carabelle to Live Oak, Fla.
Barbat, J. H., from 700 Golden Gate Ave. to 1320 O'Farrell St., San Francisco, Cal.
Buchholz, E. A., from Chicago to Keensburg, Ill.
Chapman, R. N., from 510 Walnut to 221 5th St., DesMoines, Iowa.
Caldwell, F. H., from Waycross, Ga. to Clifton Springs, N. Y.
Campbell, D. P., from Tomichi, Colo. to Greenspring, Ohio.
Cook, J. C., from 47th and Kenwood St. to 5708 Jefferson Ave, Chicago.
Dougherty, P., from Pasadena to 863 Pasadena Ave, Los Angeles, Cal.
Gobrecht, W. H., from 1228 11th to 1509 Corcoran St., Washington, D. C.
Goodwin, W. H., from French Lick Springs, Ind. to Indianola, Ill.
Jones, J. M., from 81 Sip Ave. to Christ Hospt., Jersey City, N. J.
Klebs, A. C., from 600 N. State to 147 Pine St., Chicago.
Morse, A. W., from Joliet to Odell, Ill.
Reynolds, C. W., from Malcolm, Iowa, to Holton, Kan.
Roberts, A. J., from LaGrange to Ottawa, Ill.
Rosan, E. W., from 273 55th St. to 5442 Drexel Ave, Chicago.
Tice, F., from Dunning, Ill. to Omro, Wis.
Welles, F. K., from Nogales, Ariz. to Victor, Col.
Wenzlick, W., from 310 Chicago to 241 Dearborn Ave, Chicago.

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Original Articles.

OUR CASES OF CEREBELLAR ABSCESS: ONE SUCCESS, TWO AUTOPSIES.*

BY B. ALEX. RANDALL, M.D.
PHILADELPHIA.

The serious complications of ear disease have grown
creasingly frequent since the influenza epidemics came
id continue with us, and increasing post-mortem and
irgical experience is clearing up the mystery which used
surround many of them. Better treatment of the
ute and chronic suppurations is lessening the danger
hich they entail; rational surgery of the tympanum
id mastoid, less timid and tardy in the hands of many
ian it formerly was with the few then thought very
idical, is saving many a case half over the verge; and
e clinical recognition of intracranial disease is reveal-
ig many of the operable cases before all chance of suc-
ss has passed. Yet cases will continue to offer many
iigmatic or contradictory signs, only to be unraveled
the autopsy; and unexpected complications will be
et in exploratory surgical intervention; and the follow-
ig cases, if lacking in brilliancy, may yet have very
ractical instruction for others as well as myself, and
em worth recording as additions to those already pub-
shed.

Case 1.—C. R., aged 15 years, came on Oct. 27, 1894,
omplaining of pain, and swelling of the right mastoid.
he ear had been discharging slightly for three years,
nce scarlatina, yet had been hardly noticed; but five
ays before, a box on the ear had been followed by nau-
ea, pain and malaise, which had increased to the condi-
on presented. The tender, red, and swollen mastoid
uctuated markedly, his temperature was 100.6 degrees,
nd his appearance anxious and serious. Immediate
peration was advised, but declined without home con-
ultation. Next day he was more comfortable under hot
ouching, purgative and rest, and he was sent to the Uni-
ersity Hospital and prepared for operation. Mastoid
hiseling was done under ether, on October 29, two
rams of foul pus having been evacuated by the incision
f the soft parts, but the bone surface seemed intact. The
one was very hard and sclerosed, and pus found with
ttle caries only when the antrum was reached. No sinus
ould be found leading farther; irrigation passed freely
ut by the auditory canal, so the antrum was curetted
nd packed. The temperature of 102 fell to normal, but
y midnight had reached 104.4, and after a brief fall to
01, rose by noon to 104, and after slight abatement was
little higher at midnight. Sponging was followed by a
rompt fall: change of dressing showed nothing especial-
y amiss about the wound; his eye-grounds still showed
othing abnormal, and his pulse and respiration were commensurate with his temperature—varying from 90 to 116 and 24 to 30 respectively. Mentally he was querulous and restless, but with little definite complaint. Renewed examination when his temperature went up to 105 degrees on the afternoon of the 30th, revealed pleural friction on the right side, and this condition rapidly went on to effusion and lung consolidation, with high fever little influenced by sponging or a dose of antipyrin, gr. viii, the left lung following the right. No rigor had been noted, there had been no jugular tenderness nor swelling about the neck, and the head symptoms continued apparently trivial. Supporting treatment with quinia and respiratory stimulants seemed of no avail, antipyrin, gr. viii, brought the temperature to 101, momentarily, but it rose as promptly, and purulent expectoration and increasing respiratory failure marked the advance of lung abscess, and he died on the morning of November 4, six days after the operation and thirteen days after the injury.

The autopsy, twenty-four hours after death, showed amazing destruction of both lungs, with pleural empyema, worse on the right; without other important visceral lesions, except slight appendicitis. The dura mater was engorged and adherent, the pia mater clouded, and in removing the brain two drams of pus was lost from a cerebellar abscess. The dura was apparently intact, merely congested bone separating it from the tympanic cavities. Small necrotic remains of the ossicles showed the long-standing character of the otorrhea, and that more sweeping exenteration of the cavities should have been done; but the clinical diagnosis that intact bone was present in all deeper directions was fully confirmed. An interesting point was the indentation of the sphenotemporal lobe where it rested on the extradural abscess over the tympanic roof; and while the dural surface was not even injected, the pia in relation to it was inflamed, red softening of the brain substance was well marked, and in another day a temporal abscess would doubtless have been fully formed. There was doubtful evidence of any phlebitis of the lateral sinus or jugular vein, and only loose clots, evidently of post-mortem formation. The cerebellar abscess was as large as a pigeon's egg, with a thick pyogenic membrane, thinnest where it had been adherent in proximity to the antrum, and had been torn in removing the brain. While it might have antedated the injury, this, like the lung abscess, was probably sequent to the inflammation awakened by the blow.

Case 2.—Dec. 4, 1895, Nellie S., aged 14 years, was referred to me at the Polyclinic Hospital, by Dr. Seiss, with a post-grippal suppuration of the right ear, of two months' duration, and granulations covering the back wall of the canal. Exploration was impossible without general anesthesia, so ether was given for exploration; and while all preparations were made for a sweeping operation, only a superficial lesion was thought probably present. The probe passed freely back into the mastoid, and on laying the field bare the back wall of the canal

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*Presented to the Section on Laryngology and Otology, at the
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was largely lost, the mastoid was one huge cavity, and the very large and somewhat forward sigmoid sinus was bare for an inch, and covered with granulations. There was considerable caries of the inner plate with little extradural collection, so some two square inches of dura were laid bare, and solid bone, apparently healthy, reached in all directions. The general condition was bad, but the healing fairly prompt, and she was discharged and allowed to become an out-patient after ten days. Two weeks later, without definite burrowing in the neck tissues, an abscess formed at the clavicle, and on evacuation could be followed two inches upward beneath the sternocleidomastoid. Complete healing was prompt below, but some oozing of pus from the mastoid sinus continued, appetite failed, and occasional vomiting and other serious symptoms appeared, confining her to bed. As no bed was then available at the Polyclinic, she was admitted Jan. 19, 1896, to the University Hospital, and growing suddenly worse on the evening of January 23, I operated at once, expecting from her subnormal pulse of 76 and temperature of 98 degrees to find cerebellar abscess. Considerable caries of the inner table of the petrous bone was followed deep into the middle and cerebellar fossæ, with some extradural pus there. I enlarged backward to explore the lateral lobe of the cerebellum. I had frequently condemned the backward enlargement of the bone wound as inferior to a separate aseptic exploration in this field, and probably deserved misfortune for abandoning the principle. The rongeur bit off the large mastoid emissary close to the sigmoid sinus, and all efforts to arrest the bleeding failed, so the wound had to be packed, and further exploration deferred. The patient reacted, and under nutrient enema was apparently gaining, but bleeding recurred when the packing was gently removed after forty-eight hours, and as the vessel was nearly as large as a lead pencil, the packing had to be at once replaced. She grew slowly weaker without any localized symptoms, and died at midnight on the 27th. No post-mortem was permitted, but I have no question as to the existence of a pus collection in the cerebellum, although there was little or no marked bulging of the dura in the parts exposed in the uncompleted exploration.

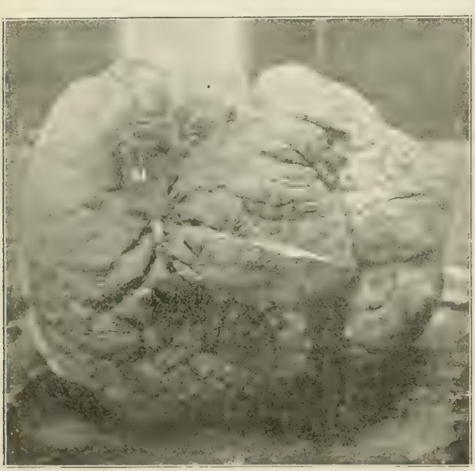

Fig. 1.—Brain of Case I, showing depressed and discolored area of phenotemporal lobe near slit-like opening of abscess in right cerebellar lobe. I. Opening of cerebellar abscess. II. Affected temporal lobe.

Case 3.—Howard R., aged 6, was brought to the Children's Hospital suffering with a middle-ear suppuration of acute onset, but of slow progress, for two months, and recently followed by mastoid swelling. As there was fluctuation, he was sent to the University Hospital for operation, and his mastoid chiseled and emptied of carious bone and flabby granulations, on Feb. 17, 1897. Nothing unusual was noted until in making the toilet of the wound preparatory to packing, a rough overhanging edge of the cortex posteriorly was scraped smooth, and a small bone sinus found which led through to an abscess cavity about 1 cm. in diameter in the cerebellum. This was scraped clean and packed, but proved exceedingly slow in healing, showing a little oozing after all other parts of the wound had healed. This had apparently ceased, and the child had long been in excellent condition when he was lost sight of, three months after the operation.

Case 4.—Katie H., aged 4 years, was brought to the Children's Hospital on Feb. 18, 1899, with history of post-scarlatinal suppuration of the right ear since November, followed by mastoid abscess, incised three weeks before, with formation of a discharging sinus behind the ear. After incision much head-pain existed, especially on the right side. For the last four days her condition had grown serious with vomiting; for a week convulsive twitchings of the left arm and leg, without paresis; hand and head movement toward the right, and considerable emaciation, on the basis of which a diagnosis of cerebellar abscess had been made by Dr. L. J. Hammond, who had seen her and urged operation. There was little mental disturbance, and the child turned the eyes as directed and made other movements, revealing no paresis except a slight weakness of the right externus, with this pupil larger than its fellow. The convulsions seem to have been general and exhausting, and the child was thought to be dying when brought to the Hospital; but she reacted well to stimulation, and had no notable symptoms during her few hours in the house. Temperature was 98.4 degrees, respiration 20, and the pulse bu 88, had been almost 150 when Dr. Hammond saw it There was no defined area of pain or tenderness to pressure or percussion except on the mastoid.

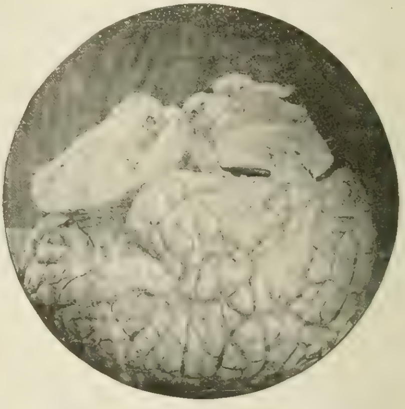

Fig. 2.—Brain of Case III, showing abscess cavity in sectioned right cerebellar lobe.

Exploratory operation was decided on, and done b the resident, Dr. Myers, in the incapacitation of m hand. The mastoid was emptied of carious bone an granulations, but no defect of its inner surface coul be discovered; so, in the absence of any localizing symptoms, further intervention was delayed. She reacted and rested comfortably until midnight, then sank rapidly and died about 5 a.m.

Autopsy showed marked excess of fluid in the arachnoid and ventricles, and pus oozed from the cerebellum when it was removed. The cerebellar surface seemed normal, as did the lateral sinus and walls of the fossa; but an abscess about 3 by 5 cm. occupied nearly the entire right lobe. There was considerable plastic lymph at the base on pons and medulla, and some clouding in the cerebral sulci.

These cases serve well to illustrate the difficulties of diagnosis in the matter of intracranial abscess, especially in the cerebellum. As stated in my paper on extradural abscess, read at the Atlanta meeting of the ASSOCIATION,[1] symptoms are sometimes wholly lacking and the lesion is unexpectedly found at an operation or postmortem. Evidences of intracranial pressure, presumably of an abscess, may be noted in slowed pulse or subnormal temperature; yet no indications can be found as to localization: subnormal temperature, indeed, is often present after la grippe or other depressing illness, without any unfavorable meaning. The eye grounds and visual fields and the eye muscles must be studied, although they all too rarely give any timely aid. Pain, spontaneous or on pressure, is generally present, but will as often mislead as guide us to the seat of trouble. Multiple abscesses may be present to confuse the localization, or undeclared at first, to bring to naught our success in healing one of the lesions. Meningitis may mask the abscess indications or carry off the patient in spite of most skilful care. Finally, delay in waiting for localizing symptoms all too often makes surgical intervention little more than "an antemortem autopsy."

With this last factor we must deal conscientiously and courageously—thorough examination of the aural and the general condition must be made and the facts and possibilities carefully weighed and stated to the friends; and permission should be asked for intracranial exploration as soon as this is judged to be advisable. Skilfully done under modern methods, this should add little to the dangers of the case when compared with those of unrecognized brain abscess. If full confidence is not accorded to your view of the conditions, a consultation should be held unless the indications are utterly inconclusive and you can still temporize.

When operation is decided on, its exploratory character must not be lost sight of; and if localization is not conclusive, alternative procedures should be planned and compared. The tympanum and its neighborhood should be first explored—functionally and bloodlessly if it presents no indication of present caries or suppuration—surgically if there be any question of its direct communication with the assumed intracranial abscess. The usual starting-point of the trouble in the cases which concern us as aural surgeons—the tympanum—commonly has some macroscopic connection with the inner purulent focus, and this may be our only guide to its location. All caries is to be followed up and radically dealt with, never sparing the dural surface of the bone if this be even suspicious. But the dura must not be lightly opened when intact. Easy as it may seem to explore the parietal lobe or the cerebellum from the mastoid opening, I question if this should be often done. Our exploration may prove negative; and, however harmless we may consider an aseptic cranial trephining and brain exploration, one must have unbounded faith in his antisepsis to be willing to open locally into meninges and brain through suppurating ear cavities. It is simpler and safer to make a separate skin flap and a formal cranial trephining at the points of election, even though we have uncovered the dura of middle and cerebellar fossæ in our mastoid work. This is a matter like the laying forward of the soft parts and boldly chiseling the bony auditory canal to remove a foreign body there impacted. To the inexperienced it seems much more formidable to do this palpable damage than blindly to inflict unknown and probably serious injury by would-be conservative gropings in the depths of the external meatus. The exigencies of the case may forbid such time-consuming divisions of the operation as entailed in separate explorations of the mastoid, the middle fossa, etc. It will be useless to have been strictly aseptic on a patient like this, lifeless from shock; but it would seem self-evidently best if possible.

REPORT OF CASE OF BRAIN AND OTHER ABSCESSES—FOLLOWING TONSILLAR ABSCESS AND NON-PERFORATIVE SUPPURATIVE OTITIS MEDIA.

BY D. MILTON GREENE, M.D.
GRAND RAPIDS, MICH.

On January 11 Dr. Vanderburg asked me to see Dr. L. V., who had been suffering from some obscure disease, for about five weeks. He had been under the care of two physicians during his illness, having changed physicians once during the five weeks. A diagnosis of tonsillitis was made in the beginning of his illness, and typhoid pneumonia later. At the time of my first visit the following history was obtained.

Five weeks before he was taken with pain in his left ear, side of head and face, with extreme swelling on these parts, extending particularly into the neck and throat. He had several chills followed by fever, sore throat, swelling of the tonsils, and finally rupture and discharge of pus in the throat. His temperature fluctuated between 98 and 105 degrees, from December 15 up to three days before I saw him, when he had a severe chill. The pulse had been from 70 to 110 during the preceding five weeks. The tongue was coated a dirty grey. His diet had been mainly beef tea and milk during his illness. An abscess had formed over the tenth rib on the left side which had been opened, and several ounces of pus evacuated. He had been rapidly losing flesh, until he was at this time a mere skeleton. His mind had been perfectly clear except that in one or two instances, when his temperature was high, he was slightly delirious. He slept but little, had conversed well, but at times appeared exhausted, and did not want anyone to talk to him. The bowels had been constipated from the beginning. Three days before I saw him he had had a severe chill, and since then had been able to utter but one word, which was his reply to every question and every word said to him. This was "No." When he wanted anything he said "no." When he meant yes he said "no," and on hearing himself say no when he meant yes, he would realize his mistake and nod his head, so as to have his meaning understood. After obtaining this history, a careful examination revealed the following condition:

He was extremely emaciated. The skin of the body and extremities was covered with scales of dead epithelium, that of the face was sallow, and the face pinched and expression anxious. The external appearances of the eyes were normal, except that there was enlargement of the right pupil. Ophthalmoscopically, the eye-grounds appeared normal, but anemic. Otoscopic examination showed the right ear normal, the left auditory canal inflamed and swollen at the posterior, superior portion, the drumhead bulging, the membrana flaccida inflamed. Pus was clearly visible through the membrana tympani, filling the tympanum. There was some edema around the point of the mastoid, and in the neck below the ear. In the pharynx there was considerable swelling back of the faucial pillars on the left side. Pus was flowing from the region of the left Eustachian orifice, which was not plainly visible on account of the swelling of the surrounding tissue. The turbinate coverings were hypertrophied, especially the inferior. Auscultation revealed normal respiratory murmurs in the right lung, but bronchial râles in the apex of the left, and no sounds in the base. The percussion note was normal in the right chest, but in the left there was dulness over a large area. The impulse of the heart was so plainly felt over a space of several inches in diameter, that it resembled a large aneurysm. The intercostal spaces between the fourth, fifth and sixth ribs were bulging from the sternum to the left about five inches. The knee-jerk was normal, and there was no ankle-clonus. There was extreme hyperesthesia over the entire left side, causing great discomfort in passing the hand over the parts. Muscular co-ordination was perfect. He made no complaint of pain anywhere.

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[1] See JOURNAL, Sept. 12, 1896, p. 571.

*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Spoken speech seemed to be received and interpreted well. While his speech was confined to the one word "No," that was plainly and perfectly produced. He could not echo, nor repeat words spoken to him, but seemed to make the effort, always ending in "no." He could understand written speech. He could see words but he could not write them. When shown his name written and asked to write it, he would always make about the same characters, which were like a reversed or inverted script capital O, with two lines crossing at an angle of about 80 degrees, and one left curve beginning near the center, drawn down and to the right. He was agraphic in the right, and could not write a word or letter with the left hand. His pantomimic powers were perfect, so far as I could discover. Extragraphic symbols seemed to be understood. No mind blindness, or psychic blindness existed. Up to this time there was no paralysis of any kind. The pulse was 60, temperature 98 degrees.

Believing in the "utterance center" of Broadbent, and feeling convinced that his aphasia was disturbance in the utterance center, and not from paralysis, I concluded that there was an abscess forming at the foot of the two central convolutions, and my diagnosis was, brain abscess in that location; with non-perforative suppurative otitis media, probably involving the mastoid antrum; abscess in the left chest, among the large vessels over the heart—probably mediastinal—from lymphatic absorption secondary to lymphatic abscess in the neck, which was the result of the suppurative otitis media.

On January 13, assisted by Drs. Graves and Vanderburg, I opened the mastoid and tympanum with a hollow chisel, after the regulation method, and pus was found in small quantity, and thick. We then opened the abscess in the left chest and found it mediastinal. It contained a full quart of very offensive pus.

The patient suffered no shock and improved rapidly for a week, gaining several pounds in flesh. A day or two after the operation paralysis was noticed in the right face, which gradually extended to the shoulder, arm, forearm, and fingers, then to his hip, thigh, leg, foot and toes. About two weeks after the first operation an abscess formed on the left side of the pharynx back of the pillars, in the region where swelling had existed from the time of the first examination. This was opened on February 10. Swelling of the lymphatics occurred two weeks later, along the deep jugular vein, with formation of pus. This abscess was opened at the time of the operation on the brain, the pus and the diseased glands curetted out, and it healed kindly. There was no doubt that the brain abscess had extended upward along the Rolandic fissure, from the utterance center of Broadbent, which is just at its foot. This was evident from the paralysis and its course. The last three days he vomited frequently, and he had diarrhea for a week, passing feces and urine in the bed, unconsciously. Urine analysis had been made frequently, but nothing important had been discovered. Repeated ophthalmoscopic examinations revealed no choked discs. There was, however, extreme anemia, and pallor of the optic nerve-heads throughout my examinations. The right pupil remained enlarged until after the second operation. No paralytic aphasia existed up to this time.

February 22 he could still say "no," and whine. Operation for the brain abscess was advised five days after the first operation, but consent was not obtained until five weeks later, viz., February 22. At this time paralysis of the right side had become complete, and saliva was pouring from the right angle of his mouth. He was in a half stupor, but as he had great dread of an operation, he watched every move and listened to every word when they were talking about an operation, and he would say "no, no, no." The temperature had been fluctuating between 95 and 102 for weeks. The pulse had ranged from 60 to 110. On February 22, assisted by Drs. Graves and Groner, I made an operation. A large inverted U-shaped flap, 3½ by 3½ inches, was made and turned down over the ear and cheek. The blood-vessels were secured as fast as cut. With a three-quarter-inch trephine, a button of bone was removed one-fourth inch in front of, and two inches above, the auditory meatus. No pulsation was felt in the brain. The opening was enlarged upward along the fissure of Rolando and the abscess was readily reached. On aspirating, the hypodermic barrel was filled with offensive pus. The abscess was opened by cutting through a half inch of brain tissue, after the dura mater had been removed. Fully three ounces of extremely fetid pus was removed from the cavity, which was irrigated with two or three quarts of hot boracic acid solution. Large, flaky chunks of pus were dislodged with the nozzle of the syringe and the finger. The abscess cavity was packed with iodoform gauze, and left for forty-eight hours. The U-shaped flap was transfixed through its center, for introduction of drainage, and by continuous suture of black silk the whole flap was carefully reunited. The patient rallied from the operation and did not vomit. Four hours after the operation the pulse was 160 and the temperature 100, and I ordered a hypodermic of 1-30 of strychnin given once, and half an ounce of whisky every hour, and under its influence the pulse rapidly fell to 110. In three days the motor paralysis passed away, and in a week he got up and walked, though he was but a living skeleton at the time of the operation. His appetite was good, he slept well, and gained at least fifteen pounds in two weeks. His speech gradually returned so that he could talk very well, though at first it was something of an effort. The discharge gradually grew less, and at this time had nearly ceased.

The chest abscess and other wounds had nearly healed before the brain operation was made. Once in twenty-four hours the abscess cavity was repacked with iodoform gauze, for five days; after that a rubber drainage-tube was used. The second packing required less than one-half of the quantity of gauze used in the first. The circulation in the brain was rapidly restored, and with it came restoration of the lost motor function.

At the end of two weeks all flaps were healed, and only the drainage-hole remained open, and with a small drainage-tube in the scalp. At the end of this time he passed from under my observation, and was taken to his sister's home in the country a week later. I heard from the case from time to time for several weeks, to the effect that he had gone along with normal temperature, eating, smoking and gaining in flesh. I heard that later he was having bad symptoms, that the wound was reopened and the brain explored with aspirating needles, in search of pus, but none was found. He suddenly developed cerebritis and died, but I have been up to this time unable to get particulars. No autopsy was made.

RECAPITULATION.

1. Systematic examination, as suggested by Wyllie, was made on my first visit and from time to time thereafter.
2. All notable signs and symptoms present were recorded and have been mentioned in this report.
3. There was no sweating after the chills, nor at any time during his illness, which is the reverse of what we would expect.
4. The abscesses, other than the one in the brain, seemed to be of lymphatic origin.
5. All abscesses were confined to the left side.
6. Whether the abscess in the tonsil preceded, or was simultaneous with the formation of pus in the tympanum is uncertain, as no otoscopic examination was made at the time.
7. The patient received a severe blow over the left ear a short time before his illness, which might have been an etiologic factor in the case.
8. It is stated that the patient had suffered severely with gonorrhea some months previous to his last illness, which possibly bears on the etiology of abscess formation, though pus from the different abscesses was repeatedly examined for gonococci, and none found.
9. The absence of choked discs, the constant dilation of the right pupil, the reaction of both pupils to light, the perfect visual fields, so far as could be ascertained with the patient in such a weakened condition, are all quite out of the ordinary.

FRACTURED BASE, WITH DEAFNESS, TINNITUS, VERTIGO, EXOPTHALMUS, FACIAL PARALYSIS, MASTOIDITIS.*

BY J. A. STUCKY, M.D.
LEXINGTON, KY.

The following case is presented on account of its peculiar interest from an etiologic standpoint, as well as its uniqueness and rarity.

F. T., a jockey, aged 21, on March 15, 1899, was exercising a horse under a shed when the animal reared, throwing the rider against the rafters, and striking his head with such violence that he was thrown to the ground. He was unconscious for only a short time. Dr. J. M. Allen saw him shortly after the accident, and reports that there was a large contusion of the scalp covering the top of the head, and this was rapidly followed by edema extending down to both ears, more marked on the right side. He complained of great noise in his right ear, and deafness, and was very restless. There was no hemorrhage from the nose or ear, though the patient says he "spit up a few mouthfuls of blood." The scalp was shaved and an ice-cap applied, 10 grains of calomel given, and an anodyne to relieve the restlessness. A week later he became very deaf in the right ear, and this was followed by facial paralysis of the same side, great tinnitus, and vertigo. I saw him for the first time five weeks after the injury was received. He presented a dazed, listless appearance with considerable bulging of the right eye—exophthalmus—with several hemorrhagic spots in the deep conjunctiva and some dimness of vision. Ophthalmoscopic examination was negative. His temperature was 101, tongue coated, pulse 72. There was complete paralysis of the right side of the face, almost no hearing in the right ear, swelling of the soft parts covering the mastoid, with marked tenderness over the tip and the antrum. The auditory canal was red and swollen, the posterior superior wall bulging. The membrana tympani presented a gangrenous appearance, being of greenish black color, with small laceration in the superior posterior quadrant through which exuded an offensive fluid.

His mind was sluggish and he complains of constant headache, fulness and roaring in the ears, constant vertigo, a feeling as if he would fall to the left, and inability to sleep. There was some aphasia, unsteady gait, speech difficult at times and incoherent.

I concluded from the symptoms and history of the case that this condition of affairs was the result of a fracture of the base of the skull. The middle ear was filled with clotted blood, and the ear symptoms, headache and facial paralysis were the result of pressure within the middle-ear cavity and antrum, accompanied by a periostitis and general inflammation of the drum cavity.

Opening the mastoid with a view of doing the radical operation, the Stacke-Schwartze was decided on as being the most rational procedure for removing the exciting cause of the trouble.

On the following day I operated at the Good Samaritan Hospital. An incision, longer than is usual, was made from below the tip of the mastoid to one-half inch or more above the linea temporalis. The usual method of doing the radical operation was adhered to. After separating the soft parts and bringing the field into view, I found the membrana tympani so infiltrated and disintegrated that nothing short of the Stacke-Schwartze operation would accomplish anything. The periosteum was much thickened and very vascular, the antrum and cells were filled with firmly adherent blood-clots; no pus; no evidence of necrosis. The attic and middle ear were also filled with clotted blood, but there was also evidence of inflammation and disintegration of the contents. The malleus had separated from the drum and the incus from the stapes, and were hanging in the cavity imbedded in the firm clot of blood. After removing the clots and inflammatory product, the parts were washed first with hydrogen dioxid, then bichlorid solution, 1 to 3000, the membranous canal was brought into place and retained by a tubular tampon made of an iodoform gauze strip, and the mastoid wound dressed in the usual manner.

On account of the extreme hardness and density of the outer layer of bone, and the great depth of the antrum and pneumatic cells, the operation was tedious, consuming one hour and ten minutes. Notwithstanding this the patient was put to bed in good condition. The following day his mind was clear, and all disagreeable symptoms had disappered, except the facial paralysis. His recovery has been uninterrupted. On the fourth day he was up and walking through the corridors of the Hospital, and in one week was discharged from the ward, to be treated as an out-patient.

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*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

DISCUSSION ON PAPERS OF DRS. RANDALL, GREENE AND STUCKY.

Dr. A. DeVilbiss, Toledo, Ohio—Unfortunately the two last cases of fracture of the skull I have had are dead. One died too soon for me to operate and we only had an autopsy; the other died shortly after operation. I like to hear of these cases of recovery.

Dr. J. E. Sheppard, Brooklyn, N. Y.—I am very sorry we do not know more of Dr. Greene's cases. To me they are of especial interest because we see so many of them. I would like if he could tell us in his closing remarks the location of the cranial abscess. He certainly had an abscess around the mastoid as a complication of an intracranial one. Those of themselves are interesting complications.

Then as to Dr. Randall's statement about opening into the cranial cavity and not doing the operation through the antrum, I think that is a very important item. It has been recommended, by a number of men, that we shall make an opening into the mastoid antrum and through that an opening into the middle and posterior fossæ. Dr. Randall's recommendation to make a separate opening into the cranium is important.

Just a word in reference to Dr. Stucky's case: It is one of great interest, and it seems to me to be an exceptional case of a class that is not very frequent. I have seen a number of cases with hemorrhage from the ear, in two or three of which the blood passed through the Eustachian tube and appeared in the pharynx with other more or less prominent symptoms. It would seem, in this case, that the fracture involved the posterior inferior quadrant, and from there the infection entered the mastoid cells and the tympanum. It is almost marvelous that the infection did not extend into the cranial cavity after extending into the mastoid cells and the antrum. The intracranial symptoms would seem to be due to hemorrhage, which was afterward absorbed.

Dr. Richards—I had a case in which a man became unconscious after falling down-stairs, followed later by partial recovery of consciousness, combined with prolonged tinnitus and loss of hearing. There was apparently fracture of the base without infection.

Dr. T. R. Chambers, Jersey City, N. J.—I can report a case where a girl was thrown from a bicycle and a milk wagon ran over her body. Blood issued from her ear, the tympanum was broken, and for three days fluid ran out of the ear. My prognosis was very guarded, but she is now around and about and has bought a new bicycle. I have seen more than one case in which the tympanum was broken. The prognosis in such cases we believe is very grave, but they sometimes get well, even with a fracture through the petrous portion of the temporal bone.

Dr. E. J. Bernstein, Baltimore, Md.—I would like to ask the Doctor how to get a good illumination of the deep parts while operating. That has always been a great trial to me. I have tried the electric light direct and reflected and various other things, and at last I have concluded to try to use an acetylene-gas lamp and have the chloroform removed for a moment while I make a momentary inspection and then remove the lamp.

As to fracture of the base of the skull, I had a boy in the House of Refuge who had been doing some skylarking and fell, alighting on his head and fracturing the upper portion of the external auditory canal. The boy lost fully an ounce and a half of blood and serum, and was put to bed. I was called out early to see him. I found him lying there unconcerned, and as long as he did not complain I did nothing. He got well without any untoward symptoms.

Dr. D. Milton Greene, Grand Rapids, Mich.—The case was said by the first attending physician to be tonsillitis, and the next attending physician said it was typhoid pneumonia. When I was called I found no perforation of the drum membrane. There was pus in the tympanum, an abscess over the heart containing a quart of pus, and an abscess over the tenth rib containing several ounces of pus. There was also an abscess about the pillars of the fauces that contained pus. Later there was a hard feeling along the jugular vein, that led me to suspect sinus thrombosis. In making the operation later on the vein, I opened up along the jugular vein and found that this was only a lymphatic involvement. At the time I first saw the patient, five weeks after the onset of the disease, when I discovered pus in the middle-ear cavity and these various abscess cavities, I found that the patient had had a chill and was only able to say one word—"No." He was able to say "no" as distinctly as ever he could say any word, but he could say no more. I diagnosed abscess of the brain, probably involving the centers of speech. The patient finally became paralyzed, first in the arm and shoulder, after I had made my diagnosis. Many of these points are opposite to the symptoms laid down by the authorities. And that is why the case is important, because it does not agree with everything written. When the arm was paralyzed, the patient could use only the forearm and hand, and later only the hand; and so with the lower extremities, he could use the leg and finally only the foot. From the region of the fissure of Rolando I removed fully three ounces of pus. The patient recovered from his paralysis and within three weeks was up and around. I will not go on and detail the rest of the case. I thank you for the kind privilege of saying a few additional words on the subject.

Dr. B. A. Randall, Philadelphia—The point noted by Dr. Sheppard is one that I brought out several times in my paper, and particularly in the second case reported. The points of diagnosis of cerebellar abscess can of course only be worked out from the details of cases as here laid down, and then not always with certainty. I leave that to be read later by any who are sufficiently interested in the paper.

In reference to Dr. Stucky's case, I would suggest that we had there a fracture of the tympanum which led to severe bleeding, disrupted the articulations of the ossicles and gave rise to the vertigo and other symptoms. It is certain that there are many cases of head-injury, with bleeding and then with long-continued and most profuse leakage of serous fluid from the ear, purely tympanic; although they are set down in the books of surgery and otology, too, as being cases in which there is loss of fluid from the brain. The fluid is really only serum from the lining in the tympanic cavity. We can often see this in inflammation of the ear when there is no question of leakage from the cranial cavity.

So far as I can judge as to Dr. Greene's patient, such cases are rare, but they are not at all unique. I have seen several such cases, but for various reasons have not reported them. I recall a case that occurred in an elderly woman who seemed nearly well, when I saw her, after a very slight tympanic inflammation. The surgeon in charge of the case did not operate nor call me in when serious symptoms arose. There were signs of thrombosis and at the autopsy a profuse purulent collection was found. I was not at the post-mortem, and did not obtain full details from those who made the examination, so I could not say positively whether we had there a brain abscess or not. But such cases are not unique.

Dr. J. A. Stucky, Lexington, Ky.—I have only one question to answer, that of Dr. Bernstein. When I do not succeed with the head mirror, I use the simple and very effectual apparatus designed by our Secretary, Dr. Holmes. It consists of an electric lamp placed on the stand, very similar to the douche stand we find in the hospitals. It has a reflector and gives a sixty-candle-power light. The light is very brilliant and can be thrown on the parts anywhere. If I want to use a speculum I place the lamp opposite the patient and use a reflector.

Question—What do you think of using the acetylene gas?

Answer—I have not tried it.

The British steamer *Nith* was, on November 4, fined $5000 by Collector Stone of Baltimore for failing to produce a bill of health from Constantinople. The captain states that before sailing he endeavored to obtain such a bill, knowing the regulations regarding such matters, but on account of unfortunate circumstances could not obtain one from the proper authorities in that country and for that reason appealed to the secretary of the treasury for relief.

NTESTINAL LESIONS ASSOCIATED WITH INTRA-ABDOMINAL OPERATIONS, WITH REPORT OF FIVE CASES OF RESECTION OF THE ILEUM.*

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In the course of any operation within the abdomen he surgeon may encounter various forms of intestinal omplications. These complications may vary from a imple adhesion to an extensive destruction of the bowel ecessitating resection of an entire segment.

The most common lesions are intestinal adhesions hich attach the bowel walls to each other or to adjacent tructures. These adhesions usually result from attacks f peritonitis, both local and general. They are often ssociated with fibroid, ovarian and other forms of inra-abdominal tumor. Tubercular peritonitis gives rise o the most extensive agglutination of the bowels among hemselves. Pyosalpinx may extend to the rectum, sigioid flexure and ileum, and so completely destroy the owel as to necessitate a resection. The pus sac may upture into the bowel at one or more points and estabish drain canals with the intestinal tract. These are he gravest forms of bowel lesion and require radical rocedures for their correction. Any effort made to reiove the pus tube and infected tissue within the pelvis hould deal with the damaged bowel wall on radical rinciples. Resection of the bowel should be made if he lesion is extensive. This method enables the sureon to remove all of the infected material within the elvis, and to establish a better communication between he resected ends of the bowel than can be secured by uturing the fistulous openings in the infected bowel all.

In dealing with such conditions everything will deend on the character and extent of the bowel lesion. dhesions may be slight, superficial or dense, and must e dealt with from the standpoint of the structures inolved. Slight adhesions may usually be overcome by ently separating the attached surfaces with the index nger. When this does not overcome them they should e drawn apart and carefully divided with a scalpel r scissors.

When the bowel is attached to a fibroid or ovarian umor a portion of the sac wall should be dissected off nd left attached to the bowel. The denuded surfaces hould be closed in with suture and be made to trengthen the walls of the bowel. Pus sacs attached to he bowel should be dealt with in a similar manner when t is possible to dissect off a portion of the sac wall and o cover in exposed surfaces. An effort should be made, henever possible, to close in bowel lesions by covering he peritoneal layer with tissues borrowed from the adacent structures, the object being to preserve the inegrity of the intestinal tube. Small openings made by us sacs, incised or lacerated wounds and denuded suraces of the peritoneal layer can be closed in by carefully uturing the area of damaged intestine. The success f this work will depend largely on the care with which t is done and on the condition of the bowel itself. If he bowel walls are already seriously infected grave daner threatens the bowel lesion. If the bowel walls are ealthy, a careful suturing promises good results.

In dealing with infected conditions the surgeon must estimate the chances of non-union and leakage from rapid extension of the infected area. Abdominal drainage should be provided in advance for a possible leakage in this class of cases. I am sure I have saved more than one patient by having a drain canal provided for a leaking bowel which broke down after closure in the manner previously indicated.

Fecal fistulæ following abdominal operations are not uncommon, nor are they necessarily fatal lesions. I have had them occur in some seven cases, all of which recovered but one. Drainage was used in all of these cases. When the bowel is tied up in the tumor mass to such an extent as to prevent a removal of the tumor without serious damage to the bowel, the surgeon should either abandon an attempt to remove the tumor, or he should resect the bowel and remove the tumor. The latter procedure should be instituted if the resection can be done with a reasonable promise of success.

Accidental wounds inflicted on the bowel in the course of an abdominal operation present, as a rule, the simplest problems connected with bowel lesions. They may be incised or lacerated, and may involve either small or large areas. The lesion may be confined to the peritoneal coat or may extend through all three layers. The condition of the bowel should be carefully examined and the wound should be closed whenever possible by suturing the peritoneal and muscular layers with a continuous catgut or silk suture. The peritoneal surfaces should be neatly approximated by rolling them in longitudinally, in the case of a long incision, or by a purse-string-suture when a small puncture has been made.

Extensive wounds may require a resection of a part or of an entire segment of the bowel: In dealing with this class of wounds care must be exercised in adjusting the suture, not to narrow the lumen of the bowel to too great an extent.

In bowel lesions, whether great or small, the aim of surgery is to preserve the integrity of the bowel. A bowel should not be resected as a matter of choice. Well-pronounced indications should be present to warrant so radical a procedure. In looking for such indications one may fall short of or overstep a conservative position. In an attempt to patch up a bowel lesion it is possible to leave behind a condition of the bowel wall which will lead to results far more disastrous than a resection. The fear of a resection has, no doubt, led to much incomplete work in connection with intra-abdominal conditions in which the bowel was involved with such conditions. It has led to the abandonment of tumors in part or as a whole, which could have been removed by resecting the bowel or by dissecting off the bowel from its attachments. When such tumors have been enucleated and bowel lesions have resulted, too little attention has often been given to the condition of the bowel and to a careful correction of such lesions. In this manner conservatism has been anything else but conservative.

Unless the surgeon is prepared to deal with intestinal lesions associated with intra-abdominal conditions, he must either continue to do a considerable number of incomplete operations, or must overlook grave intestinal lesions which may jeopardize the results of his work. One can not honestly fall back on the records of death from bowel obstruction and septic or general peritonitis following celiotomy, and prove in any number of cases the absence of bowel lesions in such cases without a post-mortem investigation. We should take poor comfort from such indefinite causes of death. Symptoms are not etiologic factors. Intestinal obstruction, intestinal leakage and septic peritonitis are very closely related conditions in their etiology, and may often be traced to bowel lesions overlooked, disregarded or treated in a very hesitating way. The light was very imperfectly thrown on the condition of the bowel; it was left to chance or to nature's reparative forces. In a few hours the overlooked condition reveals itself in the symptoms which follow.

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Minor lesions of the bowel are more apt to escape notice and attention than those of a graver character. It is not, however, the purpose of this paper to treat of minor conditions, as important as they are. I wish to call attention to those extensive lesions of the bowel which require a resection and an end-to-end approximation, with a view of showing that good results can be gotten in this class of cases which only a few years back were regarded as practically incurable. It seems to have been my misfortune to have had a larger series of cases requiring resection than usually falls to the lot of the abdominal surgeon. I am frank to say I have not invited such conditions, and if I except Case 1, am not responsible for the lesion which necessitated the resection of the bowel in any of my cases; they have occurred in connection with my abdominal work. If any criticism can be attached to the resection, it should apply to the indications calling for the resection and not to the general results. It might be shown that a more skillful operator could have saved one or more of these cases by a less radical procedure than was employed, but I must claim, in my own defense, that I could not have secured as good a result by any other method. In this claim I think we have the strongest argument in support of independent methods of work and of the personal equation of the operator. The claim can have little value in the absence of results favorable to the methods employed. To have saved four cases out of five in this series is not a record for self-congratulation, but a fortunate demonstration of the value of a simple mechanical appliance which, in the hands of any skilful surgeon, will yield as good results as were obtained in this series of cases.

It is my opinion that it is possible to save from 90 to 95 per cent. of cases if the resection is done on a healthy bowel, or when the infected portion of the bowel can be removed by the resection. The main element of success is in approximating the resected ends of the intestine with such neatness that the opposing surfaces of peritoneum are placed in the best conditions for union. This can be done if the bowel is free from attachments to the pelvic walls, and is not infected beyond the lines of union. In Case 4, which died, the distal portion of the intestine was tied down in the pelvis and the entire area of infection could not be removed. The bowel gave way at the mesenteric border, because a neat approximation could not be made. A small slough occurred at this point and leakage took place. The patient was also suffering from general systemic infection at the time of the operation which, apart from the bowel leakage, was sufficient to destroy life.

In Case 5 a leakage occurred and a fecal fistula was established, but the button kept the ends in approximation and escaped with perfect safety into the rectum. There was no systemic infection whatever in this case.

The value of the Murphy button resides in the ease and rapidity with which it can be applied. The resection and approximation can be made within from five to ten minutes. The element of time is an important consideration when the resection is done in connection with an extensive intra-abdominal operation, as was the case in this series of cases. The after-results were not of an alarming character in the cases which recovered, after the shock of the operation had subsided. Intestinal disturbances were not marked; liquid food was given after forty-eight hours. Nausea and vomiting were not present after the effects of anesthesia had worn off; the abdomen was not distended from flatus and no symptoms of obstruction or of peritonitis were noticed. The bowels usually moved spontaneously after the third or fourth day. The button remained in the rectum in each case until removed by the finger. Search was made for it daily after the first week.

End-to-end anastomosis with suture is the ideal operation when a primary resection is made. It requires a higher degree of skill and a more elaborate technic. From the standpoint of the surgeon it is a more brilliant procedure. Whether it can show a larger percentage of recoveries in the class of cases reported in this series I am unable to determine, as statistics bearing on this point are not accessible. In a pure and simple end-to-end anastomosis for bowel lesions not associated with intrapelvic operations, the surgeon has ample time to prepare for a resection, and is favorably circumstanced for plastic bowel surgery. He should be able to secure a perfect coaptation of the serous surfaces by the aid of suture material. A healthy union is thus favored, and the anticipated dangers of a foreign body in the intestine are removed. The highest art of surgery is thus made possible. The ideal operation has been practiced.

With the button anastomosis approximation is secured by a clamping process in which a large foreign body is left within the intestinal canal. The behavior of this body is an uncertain element when viewed from a mental standpoint. A sense of insecurity rests with the surgeon from day to day until its fate has been determined by its escape into the rectum. This mental picture, so disturbing to many operators, presents many imaginary dangers. In point of fact the behavior of the case is a true index of the intestinal condition, and so long as this is favorable we may lay aside anticipations and await results.

The criticism that intestinal lesions occur in the form of cicatricial narrowing of the lumen of the bowel after recovery from the button operation has no force, so far as I can determine, in this series of cases. The button operation has been condemned as unsurgical by some who practice the end-to-end approximation with suture, on the ground, I take it, of its great simplicity and ease of application. If this view is correct, surgery is retrograding instead of advancing, for the full aim of surgery should be to simplify and perfect every line of procedure that promises the best results.

So far statistics can throw very little light on the relative merits of these two methods as practiced by different surgeons. Larger series of cases and associated conditions complicating the resection must be considered before a correct conclusion can be reached. It is encouraging to know that better results in intestinal anastomosis are now possible by both methods, and the surgeon should not fail to employ the one or the other in all cases of intestinal lesion requiring a resection. He should learn to deal with the intestinal tube as with any other organ or structure requiring surgical treatment.

The possibilities of intestinal surgery have been fully demonstrated. The trained surgeon must at all times be repared to deal with all forms and conditions of bowel esions on sound surgical principles.

RESECTION OF THE BOWEL.

End-to-end anastomosis is the most common method ow employed for restoring the continuity of the bowel vhen resection is done. Several methods are employed or connecting the divided ends of the bowel. One conists in using suture and the other in using a mechancal appliance known as the button. These two methods liffer materially in technic, but they practically accomlish the same result.

When a resection is done for primary conditions, the nd-to-end anastomosis with suture is perhaps the prefrable procedure. When the resection is done in connecion with the removal of other intra-abdominal proedures, such as hysterectomy, ovariotomy or pus tube, he button operation possesses a great value in the rapdity with which the resection can be made. Time is n important element when a patient is already shocked y a tedious operation. The Murphy button can be inroduced in a space of five or ten minutes. The anastoosis with suture requires from twenty to sixty mintes. I have used the Murphy button in all the cases of esection I have made, with the most satisfactory results.

END-TO-END ANASTOMOSIS WITH SUTURE.

The bowel is resected straight through so as to present n even edge for accurate approximation. It should ot project beyond the mesentery. Sutures are laid bout one-twelfth of an inch apart and in a straight line round the bowel. Each suture is made to penetrate ut not to perforate the fibrous layer of the intestine lose to the margin. All the sutures are put in place efore a single one is tied. The mattress suture, introuced by Dr. Halsted of Baltimore, presents the best ethod of approximating the serous surfaces. To seure an accurate apposition, an inflatable rubber cylder is first introduced into the bowel so as to distend to its normal caliber.

The mesenteric border is first brought together and eatly approximated. The mattress sutures which have een introduced around the bowel are now brought toether and carefully tied. Before the last stitches are ed the air is let out of the inflated cylinder and it is ithdrawn. The remaining stitches are now tied. The ccess of this procedure depends on the great care hich is given to the passage of the suture and to the erfect approximation of the serous surfaces.

RESECTION WITH MURPHY BUTTON.

The bowel is resected at the point selected for end-to-d approximation. The resected ends are held in amps placed one inch distant from the incised ends. purse-string-stitch is now carried round the divided d of the bowel, so that the two ends of the stitch are rought together at the point farthest from the mestery. The stitch should be accurately placed and ould embrace the mucous, muscular and peritoneal yers of the bowel. One-half of the button, held in forps, is introduced into the bowel, which is now drawn osely around the button until it is smoothly adjusted. he other end of the bowel is treated in the same manner. he two ends of the button are now adjusted, and as they e made to approximate, care must be taken to secure perfect involution of the mucous surfaces, so that ly serous surfaces are exposed. The button is next ade to clamp the ends of the bowel evenly and firmly, that a perfectly smooth surface of the serous surfaces brought into coaptation. The mesentery is next nited with catgut so as to secure a closure of all exposed surfaces and proper union of the mesentery along the bowel. Care should be taken not to strip the mesentery along the bowel at any distance from the points of approximation; otherwise the nourishment of the bowel might be cut off, which would occasion sloughing at the line of proposed union.

In resecting the bowel all injured or infected portions should be removed so as to approximate healthy bowel tissue. The bowel should be carefully dried and replaced in the abdomen. The abdomen is next closed as for celiotomy.

End-to-end anastomosis with the Murphy button is employed to the best advantage in cases requiring rapid work, and when the resection is made necessary in connection with intrapelvic conditions in which the intestinal lesion is associated with the removal of other intrapelvic conditions. Resection of the bowel should follow after the removal of the primary condition.

End-to-end anastomosis with suture is the ideal operation for primary conditions of the bowel. It requires a most careful technic and is usually too slow in its steps for general adoption in cases requiring other operative procedure within the pelvis.

The following cases will illustrate the value of the Murphy button in end-to-end anastomosis when resection of the bowel was made necessary by the complications associated with intra-abdominal operations.

Case 1.—Mrs. M., aged 21, primipara, was admitted to the Maryland General Hospital in the fall of 1895. She stated that seventeen weeks previous to her admission she had given birth to a child, in normal labor. Since the birth she had suffered from severe backache and intrapelvic pains, and had been reduced to such a degree of invalidism that she had left her home in western Pennsylvania to enter the hospital.

The physical examination showed a large retrodisplaced uterus and extensive bilateral laceration of the cervix, with a mucosanguinolent discharge from the uterus. The condition indicated an arrested involution of the uterus following a bilateral tear of the cervix, with retention of placental debris in the uterine cavity.

She was placed under anesthesia with a view of correcting the displacement of the uterus and of repairing the cervix. In the examination which followed, a sound was passed into the uterine cavity which detected the presence of a soft boggy mass in the uterus. The withdrawal of the sound was followed by a copious flow of bloody and serous fluid. It also brought on a firm contraction of the uterus. I at once dilated the cervix and passed in a curette to remove the uterine mass, but found little tissue that was removable. I next passed in the blades of a long placental forceps, thinking I could grasp the mass and empty the uterus. Withdrawing the forceps I discovered in the grasp of the blades a mass which I at once saw was a loop of the small intestine which was forced down into the vagina by strong uterine pains. Examining the intestine I discovered that it had been torn by the blades of the forceps and that it would be unsafe to return it into the abdomen. I recognized that I had not only to deal with a wounded intestine but with a ruptured uterus. The patient was at once prepared for an abdominal section. After opening the abdomen I found a large tear in the fundus of the uterus, filled with the intestine, which was now carefully drawn back into the abdomen, examined and placed in warm towels. In the abdomen I found large clots of blood and a fetus about 2½ to 3 inches in length.

An examination of the uterus showed that it would not be safe to leave it. I at once removed it by a supravaginal hysterectomy. The intestine was again examined and in several places was so seriously wounded that I decided to resect it. I removed eight inches of ileum about one foot from the ileocecal valve and brought the ends into approximation with a Murphy button. The abdomen was next closed and the patient put to bed. She made an uneventful recovery and left the Hospital some five weeks subsequent to the operation. The button was removed from the rectum on the eighteenth day.

A careful examination of the uterus after its removal showed that this woman was about ten weeks' pregnant with an abnormal gestation. The fundal portion of the uterus was abnormally developed and greatly thinned out. In the introduction of the sound violent pains had been stimulated, and the uterus had ruptured at the fundus, expelling the fetus into the abdominal cavity. The intestine at once fell into this opening, and when I passed the forceps into the cavity I caught the intestine in the blades. I have not been able to see how I seized the intestine in any other way, as my manipulations were guarded and the instrument did not seem to me to penetrate deep enough to have gone through the rupture into the abdomen. On this point I can not be positive. Whatever the condition was, I was forced most unwillingly to deal with a ruptured uterus and with a wounded bowel. Any other line of action, after the condition of the patient was made known to me, would have led to the death of the patient.

Case 2.—Mrs. L., aged 30, multipara, first came under my care in December, 1894, suffering with an enormous pelvic abscess and pus sac, which I removed after a very trying operation, but I was compelled to leave a small portion of the sac wall behind. She recovered from the operation and enjoyed excellent health for several years.

In the fall of 1896, she noticed a rapidly growing intra-abdominal tumor in the location of her first one, and at once came from her home in West Virginia and placed herself under my treatment. On examination I found a large cystic tumor filling her pelvis and extending well up into the abdomen.

An immediate operation was advised. The patient was sent to the Union Protestant Infirmary, where, with the assistance of the resident physician, Dr. Dunot, I performed an abdominal section. I found a large cystic tumor densely attached to adjacent structures at almost every point. It was adherent to the omentum, small intestines and uterus by such a firm union that I was forced to remove the entire uterus and to resect five inches of the ileum. The bowel could not be dissected from the tumor mass and was disconnected in attempts to remove the sac walls of the tumor. The ends of the ileum were approximated with a Murphy button. Both abdominal and vaginal drainage were employed, and the abdomen was closed.

This patient was greatly shocked by the length and severity of the operation, but made a complete recovery.

In the use of the vaginal and abdominal drain a fistulous opening was established in the rectum, which for some days discharged feces through both drain canals. Water injected into the rectum would flow through both the abdominal and vaginal drain. The opening closed spontaneously, and the patient made an uneventful recovery. The button was removed from the rectum on the twenty-fifth day[1].

Case 3.—Mrs. J., aged 25, and mother of one child, gave birth to her second child early in the month of April, 1897. She was delivered at her home in Orlean, Va., by her family physician, Dr. R. C. Buck. Her labor was normal and her condition apparently good until a few days after her confinement, when a small cystic tumor was discovered in her abdomen. This tumor increased rapidly in size within the next two weeks and the patient began to develop symptoms of intestinal obstruction. Nausea and vomiting were incessant, and no movement could be obtained from her bowels. She emaciated very rapidly and was hourly losing ground. Dr. Buck telegraphed me to come to Orlean immediately, to do an abdominal section. I made a very hurried preparation and reached the village at 10 o'clock at night after a ride of over 100 miles by rail and twelve of rough mountain road. I saw the patient before retiring for the night, and arranged for an early operation the following morning.

Her condition was very critical, but she had one faculty left which inspired me with hope. She was hightempered. She informed me with a very strong and determined voice that she would sooner die than be "butchered," but she finally yielded to argument and became as plucky as she had been obstinate.

The surroundings were not of a character to inspire confidence in an operator. The house was small and the kitchen had to be used as the operating-room. The kitchen table, 5x9 feet, was pressed into service and the patient, vessels and assistant all occupied positions on it. Everything was made as clean as hot water could make them. There was the greatest abundance of pure hot water at my command and I made free use of it.

These details are mentioned to show what difficulties the surgeon must be prepared to cope with in country work, and as an encouragement to men who think an elaborate technic essential to success in abdominal surgery. I had one assistant who had never aided in an abdominal operation, and a country merchant as a second assistant. A colored woman boiled the hot water and placed it in bowls and wash-tubs as I called for it. A young physician living five miles distant came and gave the anesthetic.

The physical signs indicated the presence of a large ovarian cyst, which by pressure had given rise to intestinal obstruction.

After the section was made the tumor was drawn through the incision and tapped. The contents of the sac had the appearance and odor of liquid feces. The tumor had no connection with the uterus or ovaries, but was a part and parcel of the small intestine which drained into the sac. Its only pedicle was the ileum. It had performed the function of a reservoir for the fecal matter and was just on the eve of rupture from overdistension when removed. It became necessary to resect five inches of the intestine to remove the mass. Fortunately I had a Murphy button in my pocket, which made the approximation of the ends of the bowel a simple procedure. This patient made a slow recovery but is now living and in good health. The button was removed on the thirty-fifth day.[1]

Case 4.—Mrs. ——, aged 35, widow, was admitted to the University Hospital in the fall of 1897. She gave a history of a long-standing intrapelvic inflammation. Her present condition indicated an acute attack of pus formation and general intrapelvic inflammation. The physical signs showed the presence of a large encysted pus collection all around the uterus and filling up the entire pelvis. Her symptoms demanded an immediate abdominal section. The patient was prepared for an abdominal operation, and celiotomy was done in the amphitheater before a class of students.

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[1] Since writing this paper I have learned of the death of this patient in January, 1899, but have been unable to learn the cause.

[1] This patient has recently given birth to her third child.

The condition within the pelvis was complicated with a general infection of the peritoneum. Two large pus sacs were bound up in dense adhesions, which attached them to the uterus, omentum, pelvic walls and small intestine. It was with the greatest difficulty that the sac walls could be detached from the surrounding structures, but after careful dissection I succeeded in removing the sac walls and in clearing out the pelvis. The ileum was intimately attached to the sac wall, and was perforated at several points with drain canals, which had discharged pus into the intestinal canal.

It was necessary to resect over six inches of the bowel before two suitable ends for approximation could be secured. The peritoneal layer of the bowel was already inflamed, and I had grave doubt of success from an end-to-end approximation, yet it was the only procedure I could adopt in her case.

The ends were cut off as far away from the diseased portion of the bowel as I could get. The distal end—that next to the colon—was tied down in the pelvis by adhesions, and I was forced to place the button in the pelvic fossa. The abdominal gauze drain was packed into the pelvis to wall off the intestine from the infected area, previously occupied by the pus sacs, and also to provide for the escape of leakage in case of a break in the bowel at the point of apposition. The entire operation lasted over two hours, and the patient was greatly shocked when taken off the table. For forty-eight hours her condition seemed favorable. After the second day symptoms of general peritonitis and of septic infection set in, and she died on the fifth day.

A post-mortem was made to recover the button, and to determine the condition of the bowel. The abdomen and pelvis were filled with a serous exudate. The entire peritoneum was infected. At the line of approximation a small break in the bowel had occurred from sloughing. A fecal fistula had been made at this point. The button was *in situ* and union had occurred all around, except where the fistula had formed. The patient died from septic peritonitis.

Case 5.—This case is one of unusual interest from a number of standpoints. During the first week in September, 1898, a bright mulatto girl, 18 years of age, was admitted into the University Hospital with the history of an acute gonorrheal infection. According to her statement her illness began the week prior to her admission. At the time I made my first examination she was in the midst of an acute salpingitis and general pelvic peritonitis. The physical signs showed a large cystic mass which completely filed her pelvis and extended well up above the pelvic brim. The tumor mass was tense, boggy and firmly fixed. Her symptoms demanded an immediate abdominal section. Preparation was made and the abdomen opened at my regular clinic hour, on October 5.

I found the intrapelvic organs a perfect mass of adhesions. The uterus, tubes, ovaries and a large coil of the ileum were tied up in such confusion that it seemed next to impossible to untangle and enucleate the mass. Pus had burrowed in every direction, and was in free communication with the intestines. The greater portion of the tumor mass was made up from coils of the bowel, which had gotten down in the pelvis behind the uterus, and was attached to the pus tubes at every point. After a long and careful dissection the bowel was liberated from the incarcerated mass and drawn up out of the pelvis. It was folded up in the sterile towels and held out of the way until the diseased tubes and ovaries could be removed. After the toilet of the pelvis had been carefully made the bowel was examined with more care, and it was found necessary to resect twenty-six inches of the ileum. The end-to-end anastomosis was made with a Murphy button. The pelvis was then packed with a large gauze drain, and the abdomen closed around the drain canal.

The patient was on the table over two hours and was greatly shocked by the operation. Her condition for twenty-four hours was very critical, but after this she rallied from the shock, and at no time since showed an alarming symptom. The abdominal incision was infected from the pus, which unavoidably leaked out during the operation. This led to an extensive cellulitis and made the reopening of the wound necessary, as far down as the peritoneal layer. The gauze drain was removed after the fifth day. A fecal fistula was then discovered opening into the drain canal. Constant irrigation and repacking of the drain canal was kept up, and no trouble followed this condition. The patient's bowels moved regularly, and liquid nourishment was given forty-eight hours after the operation. Solid food was allowed after the second week. The button was removed from the rectum on the twenty-fifty day.

Of this series of five cases, four have recovered and as far as my information goes, are living at the present time. Case 1 has not been heard from for two years; when last heard from her health was good. Case 2 is living in Baltimore and has had no complications growing out of the resection of the bowel. I have seen her within the last thirty days.[2] Case 3 was living and in vigorous health when heard from less than six months ago. Case 5 is of too recent date to present a history of complications. The criticism urged against the Murphy button, that it leads to stenosis of the lumen of the bowel at the site of union and to intestinal obstruction, does not, up to the present time, apply in this series of cases.

SOME CLINICAL OBSERVATIONS IN RECTAL DISEASES.*

BY B. SHERWOOD-DUNN, M.D.

Officier d'Académie; National Delegate to the International
Gynecological Congress, Amsterdam, Holland, 1899.
BOSTON.

There is no surgeon of much experience in rectal surgery but has encountered from time to time cases of

PRURITUS ANI

that defied all his efforts for relief. I have lately discovered, in several of my cases, a cause for chronic pruritus, which has heretofore escaped my attention, and may possibly not have been observed by others. I therefore speak of it in the hope that it may be a source of enlightenment in many cases that have perplexed physicians. I refer to the discovery—in three late instances—of a small superficial ulcer placed between the internal and external sphincters, showing on the posterior surface, but which may be also sometimes found on the anterior surface of the gut, and in the latter situation is very likely to be unnoticed. When one is at a loss to account for any case of pruritus ani, I would therefore advise that this little ulcer be looked for. I call it "simple ulcer of the rectum," because of the fact that its borders are only slightly elevated, and the ulcer itself presents only a very small, minutely-granulated surface, and may easily escape the tactile sensation when the surgeon makes a rather hasty examination. It needs to be looked for carefully. Many physicians, in examining the rectum pass the index finger high up in the bowel, whereas the ulcer which I am describing is situated inside the first two inches from the anus, or, to be more exact, is always to be found between the internal and external sphincters. It takes very little experience to be able to differentiate between the ordinary smooth mucous membrane and the roughened surface presented by this small ulcer. There is always a certain amount of discharge from it, which is very liable to be overlooked because of the excoriated condition of the external anal borders—arising from the patient's rubbing and scratching the parts, which causes a certain amount of sweating from this irritated external surface—and which condition is liable to cause the examiner to overlook the possibility of an internal, minute discharge. It is unnecessary to say that no amount of local treatment will cure the pruritus until this cause is discovered and treated.

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[2] See foot note, p. 1194.

*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

I will only say in addition that if one wishes to make doubly sure as to the presence of this local ulcer, it can be seen by passing an ordinary rectal speculum, remembering always, however, that as the speculum is passed into the bowel, the tissues are pressed upward and displaced from their normal position, and one must allow for this displacement when searching for the ulcer; also this stretching of the tissues causes the base of the ulcer to bulge, and, as a rule, the lower border is higher than the upper, and hides the base of the ulcer from view, and it is well to press down the tissues with a small probe or sound and examine the surfaces in their complete continuity. The livid color of the ulcer as compared with a healthy mucous membrane is another point of recognition, and it is rather prone to bleed; and in this event the simple wiping of the surface with a pledget of cotton exposes a small spot denuded of its normal covering.

This ulcer should be treated in the same manner as all rectal ulcers. It is hardly necessary for me to go into a discussion of this part of the subject, except that I might say that in cases where I can not give radical treatment, and the patient must visit me at my office, I deaden the field by the use of a 4 or 5 per cent. solution of cocain and apply pure lactic acid spread on cotton wool to the surface of the ulcer. This turns the ulcer a brownish color. After allowing to remain for a moment or two, I wipe away the surplus acid with dry cotton wool, ordering the patient to inject, with an ordinary syringe, two ounces of a 25 per cent. solution of hydrogen dioxid morning and evening, and, if possible, directly after each movemet of the bowels.

RECTAL ULCERS.

I know of nothing in surgery that is more difficult of treatment than rectal ulcers. It is necessary at the outset to persuade one's patient that he is liable to a great deal of annoyance and trouble, and must have infinite patience if he is not in a position to enter a hospital and submit himself to radical curative measures.

To those who see these cases in the dispensary practice of the out-patient clinic of the charity hospitals, I would cite one or two instances that have come under my observation, which have taught me to give more than ordinary attention to patients complaining of symptoms referable to the rectum, and may persuade my hearers to be careful as to how they temporize in many of these cases. During my service at the Broca Hospital, Paris, there came to the out-patient department a young woman suffering from pruritus ani, which on examination, I decided was caused by a fissure I found present, and in the press of examining the many patients in attendance I prescribed a lotion and ointment, and told her to come the following week to report and have a renewal of her medication. Two weeks after this one of her neighbors came for more medicine, bringing the girl's card and saying she was too ill to come herself. I elicited a sufficient history of the girl's symptoms and condition to persuade me that she should be brought for examination, and I gave the woman money to hire a cab and return with the girl. On her arrival I found she had a temperature of 102.5, rapid pulse and heavily-furred tongue, with a history of several days since the last movement of the bowels. On examination I found a double ischiorectal abscess with widespread external inflammation. The abscess on one side, which had pointed, was opened on the examining-table, and several tablespoonfuls of most foul-smelling pus evacuated. The girl was then placed in one of the wards and the following day the abscess on the opposite side was freely opened. Both cavities were curetted, washed out aseptically and packed with iodoform gauze, and while under an anesthetic a complete rectal examination was made. A not very large ulcer was discovered above the internal sphincter, which, by gradual process, had formed sinuses that gave rise to bilateral abscesses, and the serious condition in which the girl was at the time of her admission. At the end of one month's daily treatment, the patient was discharged, but was re-admitted six months later for treatment of a fistula that remained from one of the external openings of one of the abscesses, and was discharged cured three weeks later.

The other patient was a woman 42 years of age, who was treated for about a month, for pruritus, which was supposed to be caused by a local fissure; then for about two weeks the patient absented herself from treatment, and at the end of this time came to the hospital in a cab, with an enormous ischiorectal abscess, which I freely opened the following morning, when I found that it arose from an opening in the bowel fully six inches up. The temperature immediately fell to normal, and the patient rapidly recovered. I kept the large free opening made into the abscess open for several days, by means of packing, while I had made a flexible wire curette with which I scraped the walls of the sinus with one finger in the bowel, and later with the hand of an assistant externally on the abdomen, pushed the bowel downward. Free liquid movements were maintained by saline cathartics, and this patient left the hospital at the end of six weeks.

I call attention to these two cases to show that there may be serious trouble back of a fissure that may cause a tormenting condition of pruritus, and to emphasize the necessity of giving more than ordinary attention to the examination of cases that come to us complaining of symptoms localized to the rectum alone.

I will cite one more case which is interesting because of the rapid recovery of the patient, following a new line of treatment adopted in this instance. The patient, a male aged 43, came to the office complaining of a boil on the buttocks. On examination I found a small suppurating point located about one inch from the anal opening, which exuded pus freely on pressure was exceedingly sensitive, and tender, the external surface showing a widespread inflammation, with absence of local induration, showing the presence of an abscess rather than a boil, as the patient had described. I told him my suspicions, gave him directions to completely empty the bowels, and confine himself to liquid diet. Three days after I gave him a careful examination under an anesthetic, having made all the necessary preparations to operate. I found a small ulcer just below the internal sphincter, and readily discovered, by the aid of a probe, that it gave rise to a sinus, which I freely opened into the bowel in the usual manner, thoroughly curetted the abscess cavity and the fistulous tract, carefully washed it out with pure hydrogen dioxid, and, commencing just above the superior border of the ulcer in the bowel, with large-sized catgut carefully stitched the incised parts together with continuous suture, carrying the sutures sufficiently deep to incorporate all of the parts separated as it came to the external opening. With the aid of a speculum I packed the bowel with strips of iodoform gauze, constipated the patient by the use of opium, and for five days allowed nothing but concentrated liquid food and a small quantity of acidulated water. The sixth day the first suture beyond the anus separated, and careful examination showed that the parts were healed by first intention. I removed the gauze and thoroughly cleared out the bowel by the aid of Husband's magnesia and hot lemonade, which, by the way, I have found the most satisfactory of all forms of purge for all abdominal operations, as it invariably gives thoroughly liquefied stools from the very first. At the end of the sixteenth day this patient was out of bed, and in three weeks was dressed and out of doors.

419 Boylston Street.

ON THE RELATION OF DISEASES OF THE ACCESSORY CAVITIES TO DISEASES OF THE EYE.*

BY J. H. BRYAN, M.D.
WASHINGTON, D. C.

The relation between the diseases affecting the accessory sinuses of the nose and those of the orbit and its contents is such an intimate one that it seems strange so little has been done in the past in the way of clearing up the hazy ideas that have hitherto existed as to the influence of diseases of these pneumatic spaces on diseases of the eye. Indeed, in the ophthalmologic handbooks and text-books of to-day, very little on the relation of orbital diseases to the suppurative affections of the accessory cavities has been written, authors contenting themselves with a brief mention of some of the more decided orbital complications which have their origin in the pneumatic cavities.

This is the first time in America, I believe, that a joint meeting between the rhinologists and ophthalmologists has been held with the view of jointly studying these oftentimes very obscure and serious affections. I feel such a discussion can only be followed by the best results, for there is no region where so much depends on the harmonious action of the two specialties in order that the patient may be relieved from intense suffering, an eye preserved, or a life saved.

It is probably a matter of assurance to many of us that, if a better understanding of these diseases had only existed, cases of so-called supraorbital and infraorbital, or optic neuralgia would not have been treated so long without benefit, some of which have gone to the verge of excision, only to find the nerves were not the seat of the disturbance, but that one of the cavities adjoining the nose was the source of the trouble.

The eye, partially surrounded by the accessory cavities whose thin walls go to make up the walls of the orbit, is very sensitive to any pathologic condition that takes place within them, and presents symptoms in many instances which, when carefully considered, will enable the surgeon to definitely locate the source of the disease. It is my custom to submit all such cases, no matter how trivial they may at first appear, to a most searching ophthalmologic examination. In this way I have been able to locate some obscure affections of the accessory sinuses, which would have been most difficult to recognize by rhinoscopic examination alone.

It is to Dr. W. H. Wilmer and his assistant, Dr. Greene, who have made most of the ophthalmologic examinations of my cases, my thanks are due for the painstaking care which they have practiced in making the searching examinations that such cases require.

Several of the cases I propose to briefly mention in this paper have been previously reported to the American Laryngological Association, but short abstracts will here be made of them in order to illustrate some of the points I desire to elucidate.

As in diseases of the nose, the affections of the frontal sinuses are frequently accompanied by ocular reflex disturbances; but they are frequently overlooked because of the difficulty in making a diagnosis of the diseased condition of the sinus. The reflex symptom most frequently observed in diseases of the frontal sinus is above all neuralgia of the supraorbital nerve, and it is present in both the acute and chronic forms of inflammation affecting the cavity. It occasionally happens that this symptom has been present long before the characteristic secretion makes its appearance in the nose. This neuralgia is not always constant but frequently occurs at regular intervals, and it does not always correspond to the diseased area, but may radiate to the parietal and temporal regions of the affected side. I have also occasionally noticed it to extend to the opposite side. This is probably one of the most frequently misinterpreted symptoms, puzzling not only the general practitioner but the specialist also. When we take into consideration, however, in the majority of cases of frontal headache either constant or intermittent in character, that there are other evidences of sinus disease, such as pain on pressure above and below the supraorbital ridge, especially at the inner angle, accompanied by a unilateral discharge of mucus or pus from the corresponding nostril, it seems difficult to understand why its true significance should not be more frequently understood.

The frontal sinuses vary in size to a great degree in different individuals. After an examination of 120 skulls, Herbert Tilley found the sinus large enough in some instances to contain an ordinary bean, while in others it was ten times as large. He considers a sinus normal where it measures 28 mm. from the median line outward, and in the vertical extent measured from the nasion from 20 to 22 mm. The size of this cavity, where the seat of a catarrhal or suppurative inflammation which is the most frequent pathologic condition met with, has a very important bearing on the ocular symptoms; much depends also on the depth of its floor, and on the thickness or thinness of its walls.

The secondary changes in the orbit, due to frontal sinusitis, are of the greatest interest, and they may be brought about simply by mechanical pressure, resulting in change of form of the orbit, in a displacement of the eyeball with a disturbance of its mobility and function, and in an interference with the flow of tears.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Disturbances in the function of the eye of a high degree have been observed in cases of frontal sinusitis, such as dilatation of the pupil and congestion of the papilla, varying in intensity with the degree of pressure; a narrowing of the field of vision, especially for colors, scotomata, and in very severe cases amblyopia or amaurosis. This, according to Kuhnt, serves to bring into prominence the fact that the peripheral and central sight in these cases can be raised up to a certain grade through intense illumination which points not to atrophy, but only to a lowering of the perception and conductibility. Frequently after the removal of the mechanical obstruction caused by the abscess, there is a rising of the central and peripheral sight; changes in refraction toward the hypermetropic and astigmatic side are observed in the cases where the pressure of the dilated sinus wall is made at the equator of the eyeball or on its posterior half. If the purulent secretion is not discharged through the nose, it may result in a diseased condition of the osseous walls of the sinus, causing an ostitis or periostitis of the walls of the orbit, the walls finally becoming so thin that the secretion can be discharged through a fistulous opening in the supraorbital ridge, through a fistulous opening at the inner angle of the orbit where the floor of the sinus is the thinnest, or farther back into the orbit, producing an orbital abscess which is accompanied by all the compression phenomena from the side of the eye.

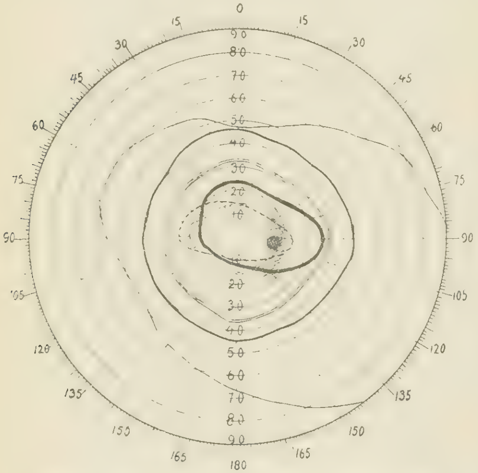

Chart 1 —— white; - - black; - - - yellow; ▬ red; = = = green.

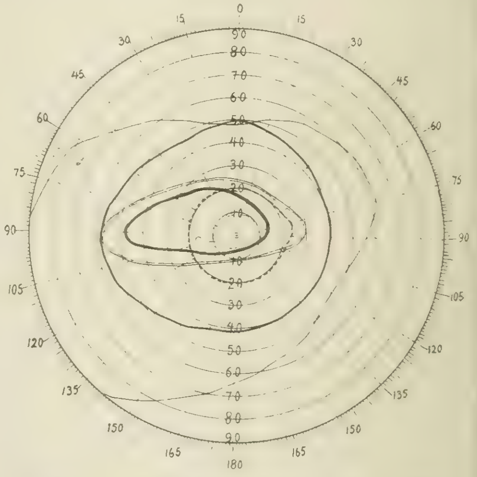

Chart 2 —— white - - black; - - - yellow; ▬ red; = = = green.

Abscess of the orbit is rarely primary. In the majority of instances it is the result of an extension of an inflammation from one of the adjoining sinuses, generally the frontal. The first symptom that shows itself may be the appearance of a small swelling at the inner angle of the orbit, while at other times the phenomena of ocular compression make their appearance, such as lachrymation, pain in the eye, exophthalmus, strabismus, mechanical diplopia, edema with a stretching of the upper lid and, when the disease has advanced to any extent, ectropion. Before the pus has made its outward appearance there may be considerable chemosis which partly or completely immobilizes the eyeball, especially for its upward or downward movements.

The following is a brief abstract of a case of orbital abscess referred to me by Dr. Belt of Washington:

CHRONIC FRONTAL SINUSITIS, CARIES OF THE FRONTO-ETHMOIDAL CELLS, ORBITAL ABSCESS, FISTULOUS OPENING AT THE INNER ANGLE OF THE ORBIT.

Case 1.—On May 2, 1897, this patient consulted Dr. Belt, after an attack of influenza, for a severe pain in the left eye. At this time the left upper and lower lids were red and swollen, and there was considerable chemosis of the conjunctiva. The eyeball was immovable, owing to the great swelling of the orbital tissues. The swelling increasing, an incision was made at the inner canthus and a large quantity of pus evacuated. A probe introduced into the wound was found to pass into the frontal sinus through a small opening at the inner angle of the orbit. Owing to the very anemic condition of the patient, further operative measures were not deemed advisable until his general health improved.

When I first saw him, Sept. 10, 1897, there was a small fistulous opening at the inner angle of the left orbit, through which pus in considerable quantities was discharging. There was a slight drooping of the upper lid, but no swelling of the skin over the frontal sinus, and no pain on pressure.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital, September 17, when after shaving the eyebrow and thoroughly cleansing the parts, an incision was made along the eyebrow, commencing just within the supraorbital notch and extending to the nasal boss. After elevating the skin and periosteum, a small opening in the orbital plate of the frontal bone was found, communicating with the frontal sinus. This opening was sufficiently enlarged by means of a gouge and rongeur, to admit of a thorough examination of the cavity, which was found filled with granulation tissue, and also found to be the seat of caries at its junction with the fronto-ethmoidal cells. The sinus was thoroughly curetted, and all granulation and carious tissue was removed. The frontonasal duct being closed, an opening into the nose was made with a trocar, and a self-retaining drainage-tube passed into the nose. The cavity was irrigated with a solution of bichlorid of mercury, 1-3000, the wound closed and hermetically sealed with iodoform and collodion. The sinus was irrigated daily through the drainage-tube, with a saturated solution of boric acid. At the end of a week, the external wound having healed, the patient was discharged from the hospital, and in ten days, there being no secretions from the sinus, the drainage-tube was removed. This is the form of orbital abscess so frequently met with resulting from a suppurative inflammation in the frontal sinus. It is, however, not always inevitable for a perforation of the walls of the sinus to take place, for in certain cases, in spite of the most minute examinations, we do not find any perforations. Panas has described such cases as *abces circonvoisin*. He believes, on account of the thin walls of the sinus, the process is propagated to the periosteum without any perforation[1].

Points valuable in the diagnosis of orbital abscess resulting from suppurating frontal sinusitis, are the position of the eye, the direction in which the eyeball is pushed, as well as the corresponding immobility of the eye. If the tumor is felt above, or above and internal, and if the eyeball is pushed downward and a little outward, while its movements upward and inward are diminished, it indicates a breaking through from the frontal sinus.

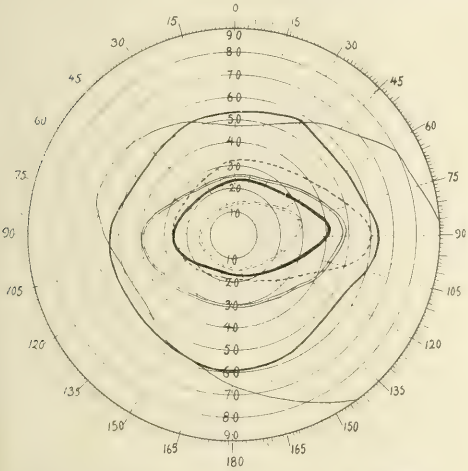

Chart 3 —— white; ══ black; - - - yellow; ▬ red; ═ ═ ═ green.

A suppurative inflammation of the frontal sinus, of any severity or duration, in my experience, rarely exists alone, but is usually accompanied by caries of the fronto-ethmoidal and ethmoidal cells. While this complication occasionally gives no evidence of its existence by a rhinoscopic examination, it is much in evidence as soon as the frontal sinus is opened. In such cases the ocular symptoms are increased in severity and render the diagnosis more difficult, for, added to the signs of frontal sinus inflammation are those which are peculiar to the ethmoidal alone. In such cases I have found the visual fields for colors always narrowed, exophthalmus more pronounced than in simple uncomplicated frontal sinusitis, especially so when the lateral and superior pressure is either at or posterior to the equator of the eyeball —the displacement is pronouncedly downward and outward, and its movement inward especially restricted.

CHRONIC FRONTAL SUPPURATING SINUSITIS AND SUPPURATING ETHMOIDITIS.

Case 2.—This is a very instructive one and illustrates the various disturbances these serious inflammations have on the eye. S. G., aged 15, was referred to me Oct. 26, 1898, by Dr. Wilmer. The patient stated that, while never robust, he had enjoyed fairly good health. He does not recall having had influenza.

During August of the present year, while at the seashore, he was taken ill with what was supposed to be malaria, but which finally proved to be an inflammation of the right frontal sinus. During this illness, in the absence of Dr. Wilmer from the city, he was seen by Dr. Burnett, who kindly gave me his notes of the case at this time:

August 12, there was an enlargement, very hard to the touch, near the right lachrymal region, but superior to the sac, without discharge from the puncta on pressure on the sac. The nasal duct was patulous, and fluid passed into the nose on syringing.

August 14, he had a chill followed by fever; the right upper lid red and edematous, the swelling extending to the forehead at the root of the nose where it was more tender than elsewhere; quite a marked exophthalmus and diminished movement of the right eye; pupil larger than the left.

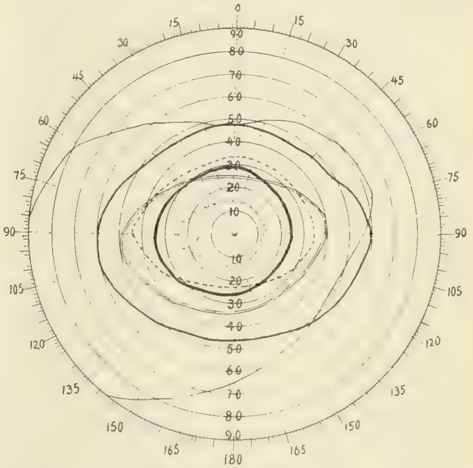

Chart 4 —— white; ══ black; - - - yellow; ▬ red; ═ ═ ═ green.

August 15, swelling was slightly diminished; no chemosis of the conjunctiva; temperature normal.

August 17, some subsidence of the swelling and exophthalmus was noted; pupil normal; eye more movable; swelling confined to the upper lid; the fundus showed no change when examined with the ophthalmoscope; some bloody mucus discharged from the right nostril and increased by pressure on the tumor at the inner canthus.

August 20, the swelling was gone, no diplopia in any part of the field of fixation, no defect in the visual field on rough testing.

August 22, there was still some swelling at the inner canthus and tender on deep pressure.

About this time the patient left the city and did not return until October 26, when I saw him. He then complained of intense frontal headaches, pain on pressure above and below the supraorbital ridge, and over the swelling at the inner angle of the orbit; slight exophthalmus. He complained of chilly sensations, giddiness and nausea, temperature 100. He was quite anemic in appearance, and stated that he had lost twenty pounds during the preceding month.

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[1] Progrès Méd., 1890.

Rhinoscopic examination showed the right middle turbinate much swollen and, on probing, caries of the ethmoid cells was discovered. The secretions were purulent and, while not very profuse, were observed to come principally from the right nostril, also flowing back into the postnasal space over the posterior end of the middle turbinate body. The electric light showed the right frontal sinus opaque, while the left frontal cavity and both maxillary sinuses were translucent.

Opthalmologic examination, made by Dr. Wilmer on October 27, was as follows:

Ophthalmometer showed a corneal astigmatism in the right eye, of 0.50 D., with rule, in the left eye corneal astigmatism of 1.50 D.

R. E. V.=20/15; accepted cyl. + 0.25; axis 180.

L. E. V.=20/30 with cyl. +0.62, 90=20/15.

Reads Jaeger No. 1 2″ equal; 20 feet, Exo. 2° ad. 4°, ab. 4°.

Color sense was good. The ophthalmoscope showed no change at all in the fundus. The perimeter showed a decided narrowing of the visual fields for white and colors in the right eye. There was also marked scotoma with its center corresponding to the normal blind spot, amounting to something more than its mere enlargement—as shown in the charts 1 and 2.

The left frontal sinus was the seat of a slight mucocele which was sufficient to reduce the visual field for white and colors.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital, October 27, and on the following day, under ether anesthesia the frontal sinus was opened in the following manner: After shaving the right eyebrow and thoroughly cleansing the parts, an incision was made through the brow commencing just within the supraorbital notch, and continued on to the nasal boss.

The flap, composed of integument and periosteum, was elevated, and a button of bone 1 cm. in diameter was removed by means of a crown trephine applied just above the supraorbital ridge and about one line from the median line. The outer table showed signs of commencing softening. On opening the sinus it was found filled with thick fetid pus and granulation tissue. The anterior wall and fronto-ethmoidal cells were in a carious condition, as were also the ethmoid cells, at least as far back as the junction of the middle with the posterior cells.

All diseased tissue was removed from the sinus, and with the little finger in the nose for a guide, all the ethmoid cells were removed with a sharp curette, as far back as they seemed to be diseased; a large opening was thus left between the sinus and nose. The walls of the sinus were then touched with a 20 per cent. solution of the chlorid of zinc, the cavity packed with iodoform gauze, one end being drawn out through the nose; the wound was then closed and hermetically sealed with iodoform and collodion.

On the second day of the operation the gauze drain was removed from the sinus through the nose, and the cavity irrigated daily with a saturated solution of boric acid. The patient made a rapid convalescence, and was discharged from the hospital on November 9, the secretions very much diminished in quantity. The irrigations were continued daily for two weeks longer, when the secretions from the sinus practically ceased. Examination of the eye, made nineteen days after the operation, showed no exophthalmus; mobility of the eye, normal.

R. E. V. = 20/20;

L. E. V. = 20/20;

20 ft., exo. 1/2, ad. 12°, ab. 4°.

The ophthalmometer showed a corneal astigmatism of 1.50 D. with the rule in both.

The visual fields, taken November 16, showed a marked improvement for white and colors, although they did not reach quite the normal standard, as will be observed by referring to Charts 3 and 4. When these abscesses have existed some time, they may result in a disease of the deeper structures of the eye, as in the form of an iridochoroiditis.

CHRONIC ABSCESS OF THE FRONTAL SINUS AND ETHMOID CELLS FOLLOWED BY A IRIDOCHOROIDITIS.

Case 3.—This case demonstrates the serious results that are apt to follow these suppurative conditions. Mr. ——, aged 71, consulted me Dec. 4, 1894, giving a history of frontal neuralgia of ten years' standing, the pain starting at the inner angle of the orbit, radiating over the corresponding side of the head and face, and increased in intensity by an acute coryza. For a number of years he has had a yellowish purulent discharge from the left nostril, no swelling at the inner angle of the orbit, and he states that he has no disturbance of vision.

Rhinoscopic examination showed the left middle turbinate slightly enlarged, and a thin purulent secretion was observed coming from above, and below it in the middle meatus. The probe, when passed into the middle meatus, revealed an extensive caries of the ethmoid cells. By means of a sharp curette I removed large quantities of pus and carious tissue from the region of the anterior ethmoid cells, after which the probe could readily be passed into the frontal sinus. The cavity was frequently irrigated with a saturated solution of boric acid. As this was followed by a very decided improvement in his condition, it was thought best not to resort to any more radical measures for his relief on account of his age and a decidedly irregular heart action.

From time to time I have seen this patient, and about two years ago there seemed to be a tendency to an extension of the suppuration process backward into deeper and posterior ethmoid cells. Drainage, established by means of an occasional curetting, seemed to give the patient relief from his painful symptoms.

About two years ago the left eye commenced to trouble him, and he then consulted Dr. Herbert Harlan of Baltimore who has kindly given me the following notes on his eye-condition since he has been under his observation:

February 11: He complained of "a little mistiness of the left eye." V. O. D. = 15/100, V. O. S. = 8/100. He had been wearing bifocals. +1.50 gives O. D. 15/30; O. S. 15/200. The right fundus was a little cloudy, but good. Deep physiologic pitting of disc was evident. The left had large floating bodies in the vitreous. The vitreous was muddy. A patch of choroiditis was made out to the nasal side. He was put on a tablet containing iron, arsenic and strychnia, and his reading glasses changed to +4 D.

February 25; The eye was a little better. V. O. S. = 15/100 with glasses. Treatment was changed to ferri et hyd. chlor. cor. comp. (Mulford).

April 7: "Eye doing well until a few days ago." Now had marked iritis with adhesions. Atropia solution was used.

April 10: The pupil was partly dilated, the fundus muddy, and the eye red. Treatment was kal. iod., grs. xv, in essence of pepsin t. i. d.

April 28: "Eye more inflamed, last two days. Very uncomfortable. No great pain." Tension +, blood in ant. chamber, cornea cloudy. Eserin was instilled, and after a few minutes the eye felt better, and tension was less. Eserin was ordered and KI stopped, but ferri et hyd. given.

May 3: Tension was less and less blood in the anterior chamber.

June 17: "Eye did well until about ten days ago." Now very red, with blood in the anterior chamber, the pupil was closely contracted, tension + 1. Atropia was ordered to be used carefully.

June 21: The left eye was better, the blood in the anterior chamber nearly absorbed, vitreous muddy; no fundus; light only.

July 17: O. S., no longer red; cornea hazy; no fundus: O. D. +2.50, 15/15; ℞. +4.50 reading.

April 18: O. S.; cornea clear, lens opaque, light; O. D.; pupil a little dilated, and responds sluggishly to light. V.= 15/15; field taken and found good; use of his distance glasses advised. Fraser's quin. comp. tablets were ordered.

May 18: The condition was the same.

November 15: The condition was the same.

December 30: A letter says the left eye is red and irritable and he wishes some other drops.

Jan. 26, 1899: +O. S., red and irritable; pupil closed; no light; O.D. well; kal. iod. and Fairchild's essence of pepsin were ordered.

March 20: O. S., red and heavy; tension; atropia was ordered and KI continued.

April 13: Enucleation was advised for O. S.

ETHMOIDAL AFFECTIONS IN RELATION TO DISEASES OF THE EYE.

Affections of the ethmoid cells are generally caused by diseases of the nose, and may exist alone, or complicate suppurative inflammations in the frontal, as has been previously mentioned, also in the maxillary and sphenoidal sinuses. According to the intensity of the inflammation and the cells involved, caries of the ethmoid may or may not be accompanied by ocular symptoms, a great deal depending whether the abscess is open or closed, and whether the anterior or middle and posterior cells are involved. In the open variety, where the pus has a free discharge into the nose, the eye may escape any injurious effects until the carious process has made sufficient advances to involve the deeper cells.

In the closed variety, however, the ocular symptoms are almost immediately present. Abscesses in this region are accompanied by the same ocular disturbances that are met with in frontal sinus inflammation, the pressure symptoms varying somewhat from those in the upper cavity. Supra- and infraorbital neuralgia, so-called cysts of the orbit, orbital abscess, exophthalmus, disturbances in refraction, scotomata, iridochoroiditis, changes in the visual field, are the symptoms most frequently found in well-advanced cases. The so-called cysts of the orbit are generally the manifestation of some form of disease of the ethmoid cells, either in the form of a closed abscess or a dilatation of the cells, the pressure being so great as to cause a marked displacement of the eye.

If the middle or posterior cells are affected without any involvement of the other neighboring cavities, the displacement of the eye is generally outward, while the inward mobility of the eyeball is decidedly interfered with.

At times, when there is a swelling and projection of the cells toward the orbit, it becomes very difficult to differentiate between a closed abscess, a cyst or a solid tumor.

The following case illustrates some of the difficulties that are met with:

NASAL POLYPI. ALVEOLAR SARCOMA OF THE ETHMOID CELLS, LATER INVOLVING THE ORBIT; PURULENT ACCUMULATION IN THE ANTRUM.

CASE 4.—Mrs. ——, aged 57, was referred to me by Dr. Stone, U. S. N., and stated that in October, 1898, she noticed a great difficulty in breathing through the left nostril, which on examination was found to be due to the presence of several large mucous polypi. These were removed in January, 1899, and some time afterward she had a profuse hemorrhage from that side of the nose which. however, was not attributed to the removal of the polypi.

March 1, when she first consulted me, she complained of pain in the supraorbital and infraorbital regions. pain in the eye, inability to breathe through the left nostril, photophobia and lachrymation. Examination of the eye, by Dr. Wilmer, showed both lids of the left eye swollen, there being also an extensive chemosis of the conjunctiva at the lower inner angle of the eye. Motion of the eyeball was interfered with to some extent, owing to the swollen condition of the orbital tissues. On palpation a firm mass was found along the orbital ridge of the malar bone, extending from the inner canthus 5 mm. outward.

No ophthalmometric reading could be made, owing to the condition of the eye. The patient was myopic, but normal sight could be obtained by use of proper lenses. Examination of the muscles showed the following: image seen with left eye, 1½° to the left and 1° below that of the right. Ophthalmoscopic examination revealed the veins and arteries very much engorged, slight pulsation, and slight elevation of the retina at the inner lower angle.

The day following, the chemosis had increased greatly and examination showed continued diplopia. The fields for white and colors were normal. Rhinoscopic examination showed the left nostril partially occluded by numerous small mucous polypi springing from a greatly swollen middle turbinate body. No pus was observed in the nasal chamber, but on forcibly blowing the nose small quantities of thick purulent secretion could be blown out, and she complained of a constant dropping into the postnasal space. Examination with the electric light showed both frontal and right maxillary sinuses translucent, while the left was absolutely opaque. The diagnosis in this case lay between a closed abscess of the ethmoid cells bulging into the orbit, and secondarily affecting the maxillary sinus, a dilatation of the ethmoid cells, or a solid tumor originating within them. The patient having lost her teeth several years before, on March 2, I perforated the left antrum, through the alveolar ridge about the location of the first molar, by means of a small trephine, and evacuated about a dram of rather thick pus. The cavity was irrigated daily with a saturated solution of boric acid, with the result of an almost complete disappearance of pus within three or four days.

I made several attempts to reach the seat of the ethmoid disturbance through the nose by means of a curette, but without much success; as the chemosis was rapidly increasing and the eye symptoms becoming more threatening it was decided to operate without further delay.

March 26 the patient was etherized, and, assisted by Drs. Wilmer and Greene, an incision was made through the base of the lower lid extending from the inner angle to nearly the full extent of the infraorbital ridge; the bulging ethmoid cells were exposed, and opened by means of a perforator. Through this opening a curette was passed into the ethmoid cells and with the little finger in the nose for a guide I was enabled to remove nearly all of these cells, which were found to be broken down and filled with pus and granulation tissue as far back as the posterior cells. The nasal wall of the antrum in relation with the ethmoid bone was also found badly diseased, and was removed, leaving a large communication between that sinus and the nose. The parts were then thoroughly cleansed with a boric acid solution, and the external wound closed. There was no microscopic examination made of the tissue removed from the ethmoid cells at this time. The external wound healed quickly, but at the end of a week it broke down at its inner third; the nose and antrum were irrigated daily with a boric acid solution.

The patient's condition was much improved for a time by the operation, especially in the subsidence of the chemosis and the pressure on the eye. The secretions from the nose and from the external wound were at no time profuse.

About two weeks after the operation she complained of increasing pain in the eye, in the infraorbital and supraorbital and temporal regions, the eye condition remaining about the same.

April 12 the eye condition was not so good, there being increased swelling of the lower lid, very hard to the touch, chemosis increasing. The nose, which had been thoroughly relieved by the first operation, now showed a return of the swelling, which on examination was seen to come from the seat of the operation.

By April 14 the pressure on the eye had increased decidedly—the preceding two days—chemosis being very much increased. The symptoms were so threatening that a second operation was insisted on.

April 15 the patient was etherized, and Dr. Wilmer, operating through the previous incision in the lower lid, discovered the floor of the orbit filled with a tumor formation of very firm consistency. It had extended from the ethmoid cells along the floor of the orbit, infiltrated the lower lid and was extending into the upper lid back of the lachrymal sac.

Not having authority to remove the eyeball and the contents of the orbit, as the indications so strongly called for, he had to be content with removing as much of the tumor as possible through the external wound, removing a portion of the floor of the orbit at its juncture with the ethmoid bone. A drainage-tube was passed into the orbit, and the wound closed. A microscopic examination, made by Dr. Walter Reed, U. S. A., showed the tumor to be of the alveolar sarcoma variety. The patient's husband, who is a physician, realizing the unfavorable prognosis of the case declined a more radical operation for her relief.

April 20 the patient was discharged from the hospital, in order that she might be removed to her home in New York State. In a letter shortly after her arrival home her husband stated that the growth was slowly increasing.

DISEASES OF THE SPHENOIDAL SINUSES IN RELATION TO DISEASES OF THE EYE.

There is no means of knowing to what extent sphenoidal disease exists. Whether it is as frequent or less frequent than inflammations in the neighboring cavities of the nose is a question yet to be determined. In cases in which the symptoms are not well defined, it is impossible to make a diagnosis, and it is frequently only when the disease has advanced to such an extent as to cause serious eye disturbance or other symptoms that threaten an extension to the meninges, that we can form a definite opinion as to the condition of these cavities. These cavities are subject to the same forms of inflammation noticed in other sinuses, and they are also occasionally the seat of tumor formations. A suppurative inflammation in these cavities alone is exceedingly rare, for it is generally associated with disease of the ethmoid and frontal sinuses.

The diagnosis of abscess of the sphenoidal sinuses rests almost entirely on rhinoscopic and ophthalmologic examinations, for the subjective symptoms may be wholly wanting, or of such a manifold variety as to make it impossible to diagnose with even a slight probability a disease of this cavity. The most common rhinoscopic finding is the appearance of pus in the superior meatus, posteriorly. Even this is not positive evidence that the source of the trouble is the sphenoid alone, for in many instances the posterior ethmoid cells are the seat of the disease. But when these cells are the seat of a suppurative inflammation, it is safe to say the sphenoidal cavities are also involved, for the bony partition that separates these cavities is so thin they can not withstand any pressure without giving way under it, thus forming a direct communication for the extension of any pathologic process from one cavity to the other. Occasionally the anterior wall of the sphenoid sinus may bulge forward. When this occurs the source of the purulent secretion is then readily recognized.

In mild cases, where the pus finds a ready exit through the nose, the eye may not be involved; but where the inflammation is severe from its outset, or there is an obstruction to the outflow of pus, pain in the occipital region, extending to the vertex, will be marked. There may be also an increased lachrymation, photophobia, pain in the orbit back of the eye, exophthalmus, ptosis, strabismus, diplopia, orbital abscess, and from a partial to a complete loss of vision.

The following case represents some of the manifestations of this disease.

ABSCESS OF THE SPHENOID SINUS, PARALYSIS OF THE EXTERNAL RECTI.

CASE 5.—Mr. ——, aged 57, was referred to me by Dr. Wilmer, April 17, 1899. When I first saw this patient he complained of intense pains in the occipital region, radiating to the vertex; giddiness, nausea, and double vision. There was a profuse fetid purulent discharge from both nostrils and from the postnasal space. After thoroughly irrigating the nose, a rhinoscopic examination showed the frontal, ethmoidal and maxillary sinuses to be free from disease. The posterior wall of the nasopharynx was observed bulging forward, nearly touching the velum palati, the bulging being greater on the right than on the left side. Pus in large quantities was seen in the vault of this space, flowing forward in the nasal chambers and below into the pharynx.

He was first seen by Dr. Wilmer, Feb. 27, 1899, when he showed a complete paralysis of the right external rectus only. Examination of the eye, with correction for refraction showed the sight normal in each eye. Pupillary reaction was normal, as were also the visual fields for white and for colors. The interior of the eye showed nothing abnormal.

April 17 there was a paralysis of both external recti, but no other changes in the eyes. He complained of great pain at the back of the head and vertex.

April 21 the patient was admitted to the Episcopal Eye, Ear and Throat Hospital, and on the following day, under cocain anesthesia, I opened the left sphenoidal sinus by means of a gouge passed through the nose. The opening was made rather too high, but was sufficiently large to admit of a free discharge of pus, which gave him considerable relief and which lasted for several days. At this time I supposed both sinuses communicated, and hoped that one opening would be sufficient, but the pains soon returned and seemed to increase in intensity.

April 28, under ether anesthesia, I made a free opening in the right sinus, by means of the gouge passed through the nose, using my finger in the postnasal space as a guide. This was followed by a profuse discharge of very thick fetid pus. The sinus was freely curetted, removing as much carious bone as could be reached by my instrument, and was irrigated with a saturated solution of boric acid. This operation was followed by almost complete relief from pain, and a very decided improvement in the paralysis of the right external rectus, while there is none in the paralysis of the left.

The sinuses have been irrigated daily with a boric acid solution, resulting in a decided dimunition in the quantity of purulent secretion. He was discharged from the hospital on May 2, greatly improved. The opening in the left sinus shows a tendency to close, and in consequence the occipital and vertex pains have returned, but they are not so intense. This cavity will probably have to be opened again. This case is especially interesting from the fact that the other sinuses are not involved, and the pressure, instead of being made on the optic nerve, as is usually the case, is directed upward and outward and involves the abducens nerves just before passing through the sphenoidal fissure.

DISEASES OF THE MAXILLARY SINUS IN RELATION TO THE DISEASES OF THE EYE.

The maxillary sinus is subject to the same diseased conditions that are met with in the other accessory cavities, and probably is the most frequently affected, as it has both the teeth and the nose from which pathologic processes may extend. It probably is, however, less frequently complicated with diseases of the eye than the other accessory sinuses.

Many of the eye symptoms that are met with in abscess of the maxillary sinus are reflex in character, such as narrowing of the field of vision, photophobia, dilatation of the pupil, blepharospasm, and ptosis; while others are the result of an inflammatory extension; such as osteoperiostitis, abscess of the orbit, dacryocystitis, and iridochoroiditis.

It will be observed that there are many symptoms of diseases of the eye, when associated with accessory sinus inflammations, which are common to one or more of the affected cavities. There are, however, certain symptoms which are peculiar to certain sinuses, and it is only by the closest observation of these cases, both from the rhinologic and ophthalmologic side, that we can hope to make an early diagnosis. While pain is a symptom met with in these affections, its location will frequently aid one in determining the cavity which is the seat of the inflammation. This, however, must not be depended on alone, for occasionally in ethmoidal abscess the pain is referred to the supraorbital ridge as well as to the eye and infraorbital region.

Orbital abscess may occur as readily from an extension of an inflammation of one cavity as from another. I believe, however, basing my opinion on my own experience, it more frequently results from frontal sinus disease. A narrowing of the field of vision for white and for colors may follow an abscess in either the frontal, ethmoidal, sphenoidal, or maxillary cavities. It is, however, more frequently met with when the frontal and ethmoidal sinuses are jointly diseased. Refractive disturbances are more frequently noticed in inflammations of the frontal and ethmoidal cavities, and generally in those cases where the pressure is exerted either at or posterior to the equator of the eyeball.

Exophthalmus may be present in any well-advanced abscess of the accessory sinuses; the extent and direction in which the eye is pressed from its normal plane indicates the cavity which is affected; e. g., in frontal disease the eye is pushed forward and downward, in ethmoidal, forward and outward, in sphenoidal, directly forward and slightly outward, while in maxillary disease it is directed upward and outward.

Sudden blindness, together with ptosis and strabismus, when associated with abundant discharge into the postnasal space, is indicative of sphenoidal disease.

EYE TROUBLES ATTRIBUTABLE TO NASO-PHARYNGEAL AND AURAL DISTURBANCES.*

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The direct anatomic connection between the eye and nose makes it easy to understand how disease can spread from the latter to the former by way of the nasal duct. Moreover, the intimate nervous and vascular connection between the two organs also plays an important part in the propagation of disease from the nose to the eye. Both these modes of transmission have been recognized since the last century, and referred to by different authors, but Bresgen—1881—was the first to lay any special stress on the fact that conjunctival catarrh was often dependent on nasal catarrh. Since his article appeared, medical literature has had numerous contributions on this and other eye troubles of nasal origin, whether by direct or reflex communication. Appended to my article on "Neurosis of the Nose and Nasopharynx," in Burnett's "System of Diseases of the Ear, Throat and Nose," and to Dr. Gould's article in the same treatise, on "Disease of the Eye Dependent on Diseases of the Nose," can be found an extensive bibliography of the subject from the earliest times to 1892. Since then, other contributions on the subject have appeared from time to time, adding to the accumulation of testimony to the importance of considering the nose as an etiologic factor in eye disease.

From these references it will be seen that, according to a large number of observers, we have not only troubles of the lachrymal apparatus by direct transmission of pathogenic organisms from the nose to the eye, but a large number of other eye diseases traceable to direct or reflex extension from nasal and nasopharyngeal causes, such as asthenopia, photophobia, retinal hyperesthesia, muscæ volitantes, ocular neuralgia, contraction of the visual field, blepharospasm, phlyctenular ophthalmia, conjunctivitis, keratitis, mydriasis—Goris and Trousseau—amaurosis, amblyopia, strabismus and even glaucoma, myopia—congestion of uveal tract (Landolt)—and astigmatism (spasmodic).

The supposed nasal and nasopharyngeal causes were as numerous as the resulting eye troubles, among them being acute rhinitis, chronic hypertrophic rhinitis, synechiæ, nasal polyps, growths, diseases of the accessory sinuses, adenoid tissue, enlarged tonsils, simple atrophic rhinitis, ozena and nasal hydrorrhea.

Coryza gives rise to lachrymation, conjunctival injection, dacryocystitis and ocular pains. Chronic rhinitis produces rebellious conjunctivitis and blepharitis, phlyctenular conjunctivitis, epiphora—asthenopia—myopia (?)—congestion of uveal tract (Landolt)—and astigmatism (spasmodic). Ozena produces ulcers of the cornea, dacryocystitis, neuritis, iritis, chorioretinitis, amblyopia, amaurosis and orbital phlegmon. Purulent rhinitis causes iritis and uveitis, phlebitis of ophthalmic veins, and contraction of the visual field. Sinusitis—frontal, maxillary, ethmoidal, etc.—produces orbital neuralgia, iritis, iridochoroiditis, orbital cellulitis, neuritis, exophthalmus, diplopia, etc. To nasal hydrorrhea is due neuritis and atrophy of the optic nerve. Nasal synechiæ cause blepharospasm, conjunctivitis, amblyopia, and strabismus, and nasal diphtheria and croup, similar affections of the conjunctiva. Adenoids cause phlyctenular keratitis and conjunctivitis, blepharitis and strabismus, etc., while pharyngeal diphtheria gives rise to paralysis of accommodation, and tonsillar affection to lachrymation, blepharospasm, conjunctivitis and keratitis, and orbital thrombosis.

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Eliminating the accessory sinuses, and the ordinary causes of nasal stenosis, which are treated of in other papers, I will briefly refer to the eye troubles, known or supposed to be etiologically connected with nasal catarrh without nasal obstruction, with hydrorrhea, with atrophic rhinitis and ozena, and with lymphoid tissue in the nasopharynx, such as adenoids and enlarged tonsils.

It is almost a waste of time to speak of the well-established connection between affections of the lachrymal apparatus and nasal disease, probably 80 per cent. of the former being caused by the latter, either by the direct extension of germs from the nose to the lachrymal sac, or by the obstruction of the nasal orifice of the nasal duct, thus preventing the out-flow of the lachrymal fluid, with its consequent disintegration and the injurious effects therefrom.

Although epiphora can be the result of any lid troubles causing malposition of the punctum, or of that rarer cause, closure of the canaliculi, I very seriously doubt whether the usual departure of troubles of the lachrymal sac, viz., obstruction of the nasal duct, is often due to other causes than nasal disease. I think most writers and observers are of accord on this point, although all do not lay equal stress on the necessity of the nasal treatment, if we would cure the lachrymal trouble.

It is interesting to note some of the results of slight operations on the nose and throat as indicating another line of connection with the eye. In 1892 Ziem reported having observed hyperemia of the disc with venous pulsation, following the application of the galvanic cautery to the nasal mucosa, which he explained by the anastomosis between the vessels of the nasal fossæ and the orbit, probably by way of the ethmoidal vessels—an interesting coincidence if not a proven sequence. Akin to this is the report of amaurosis—optic neuritis—following on a traumatic hemorrhage from the nose, by Schmidt-Rimpler, which he supposed due to resulting ischemia of the retina. Somewhat similar was Blok's case—reported to the Ophthalmological Society of the Netherlands, in 1894—of marked asthenopia in emmetropia with normal convergence, cured by cauterization of the inferior turbinate, evidently of reflex influence. More curious still is the case reported by P. Viollett,[1] of permanent strabismus following the cauterization of the nasal mucosa, and one more difficult of logical explanation. He supposed it to be due to nervous shock in an individual predisposed to strabismus by a pre-existing astigmatism and a general nervous state. This case recalls that of Goureau[2] who, in 1891, reported the cure of strabismus in a child, by the removal of adenoids, in which instance the shock worked in the inverse order to the first case. Laurens[3] reported another case of strabismus cured by removal of adenoids. In May, 1894, in a paper entitled "Nasopharyngian Therapy in Ocular Affections," presented to the French Ophthalmological Society, Guibert, among other cases, recorded one of recurring keratitis cured by removal of adenoids after local and constitutional treatment had signally failed. Ziem has reported a similar case.

I have often seen pain in the eye produced by the operation for adenoids, which is in the same line of reflex effects. Other cases of like character have been recorded, and they seem to point to a physiologic and pathologic relationship between the nose and eye along lines not yet thoroughly explored, and in consequence the explanation of the production of such effects is not always satisfactory.

These results of operations on adenoids are probably open to criticism, and especially the supposed cure of keratitis by this means. We are all familiar with ulcerative keratitis as an accompaniment of lachrymal disease, which may have been caused by direct infection from the nose, but it is difficult to account for a keratitis secondary to nasal disease without accompanying affection of the lachrymal apparatus, even in ozena—Trousseau, Nieden and Massini—as its so-called characteristic microbe, the bacillus of Loewenberg, Fraenkel and de Vedova has been found by Terson and others in the lachrymal fluid, without any alteration of the conjunctiva or cornea. Still, Fortunati[4], in February, 1896, reports two cases of ulceration of the cornea in conjunction with nasal trouble, in which the ocular treatment was of no avail, and which were only benefited by the improvement of the nasal condition. In these cases the lachrymal passages were in a normal condition, and moreover the nasal trouble was not of microbian origin. He explained it as a neuroparalytic trouble, the cornea being somewhat anesthetic without phagedenic infiltration, without hypopyon and almost without pain, the trophic disturbance starting probably in the peripheral filaments of the second branch of the fifth pair in the nose, extending to the Gasserian ganglion and thence to the ciliary ganglion and ciliary nerves.

Dr. Haight[5], in the discussion of his paper on "Diseases of the Eye, Caused by Diseases of the Nose," reports a case of ulceration of the cornea resistant to all treatment, until the accompanying adenoids and enlarged tonsils were removed.

I do not think there is any question as to the apparent influence manifested by the presence of lymphoid tissue in the post-pharyngeal space and fauces on the progress of so-called phlyctenular keratitis or keratoconjunctivitis, which often develops into or is accompanied by deep ulceration of the cornea. Still, the explanations offered differ, some claiming it to be the effect of a generous scrofulous dyscrasia, and others that the condition of the eye is reflexly produced by the presence of the throat trouble, proven in many instances by the rapidity with which the eyes get well when the adenoids and enlarged tonsils are removed, an argument met by the rejoinder that the removal of the latter, with the improvement to breathing, brings about an improvement in the general health and reacts favorably on the eyes.

That iritis and uveitis have been supposed to be etiologically connected with nasal troubles is well known since Ziem first reported a case of iritis which he claimed to be caused by purulent rhinitis.

In May, 1895, before the French Ophthalmological Society, Fage reported a case of iritis associated with ozena which he supposed to be due to the latter by infection from the coccobacillus of Loewenberg, but as in Ziem's case the demonstration is not conclusive. E. Berger also observed a case associated with purulent rhinitis.

W. C. Posey[6] reports a case of *metastatic uveitis* with loss of sight, consecutive to a purulent rhinitis. In the discussion, Randall said he had seen a similar case. There was no symptom of trouble with accessory sinuses. Panas[7] supports this contention with the explanation that the eye trouble is due either to the passage of microbes by way of the vessels and lymphatics from the nose, an endo-infectious process, or to toxin poisoning.

So also may be explained E. Berger's case of central scotoma in a woman with ozena, in whom the nasal treatment ameliorated the visual defect.

Sulzer's[8] two cases of optic neuritis with scotoma, in connection with ozena, cured by treatment of the nasal affection, are in the same line, due either to the propagation of an infectious process by way of the vessels and lymphatics, or to toxin action, as in post-diphtheric paralysis or in tetanus. In like manner might be explained cases of amblyopia and amaurosis in ozena by an infectious process traversing the ethmoid plate, and causing subacute basilar meningitis, with secondary involvement of the optic nerve.

Panas[9] reports a case of double orbital thrombosis due to gangrene of the tonsil—infection by way of the anastomotic veins pointed out by Trolard, connecting the tonsil with the cavernous sinus through the foramen ovale.

Asthenopia, lachrymation and contraction of the visual fields were long ago reported by Hamilton[10] in cases of atrophic rhinitis and ozena, and since observed by others—these conditions being improved by the nasal treatment. I have seen cases of asthenopia and pain in the eye and ear in connection with atrophic rhinitis without appreciable lesion of the eye or ear which appeared to be due to the nasal trouble.

The connection of optic neuritis and nerve atrophy with nasal hydrorrhea or serous rhinorrhea is a subject of interest, owing to the obscurity of the etiology. Bosworth collected 18 cases, of which 5 had optic nerve atrophy. These were reported by Baxter, Leber and Nettleship, each 1, and 2 by Priestly Smith. Professor Körner[11] has added four more to these, 1 each by Gutsche, MacKenzie Wallace, Wood and Hardy, and 1 by himself. He overlooked 1 reported by A. Emrys-Jones, making 10 in all, of which 4 died, 1 recovered and the result in the others is unknown. Dr. Gould reports 2 cases, 1 by Elliotson and 1 by Paget, supposed to be of the same character, but, on examination, I find no mention of the condition of the optic nerve in either case. An autopsy was performed in 2 of them—in Baxter and Gutsche's; in the former the result was negative, in the latter, death was found to be due to meningitis, but a tumor of the hypophysis was found which had extended into the sphenoidal sinus. The optic nerves, especially the right, were found compressed by the tumor and there was probable neuritis. Körner thinks the discovery of a growth in this locality is a step toward the elucidation of these enigmatic cases.

Since Bosworth made his collection of cases of nasal hydrorrhea, in 1889, many such have been put on record—the list is a long one, but these are the only ones with optic nerve complications, as far as I have been able to discover. It is possible more of them developed optic neuritis, and recovered, but, in the absence of the ophthalmoscopic examination, this is a mere surmise. In all probability, both the hydrorrhea and the neuritis are from the same cause, instead of the latter being caused by the former.

I have treated two such cases in the last year, one a typical one of two years' duration, with constant discharge of a clear limpid fluid, and a resulting chronic eczema of the upper lip, and the other with intermitting attacks. While both have shown minor eye troubles, such as asthenopia, with congestion of the conjunctiva and blepharitis, neither has had any optic neuritis. In neither have I been able to discover the cause of the discharge.

From this résumé of the relations between nasopharyngeal and eye troubles, it will be observed that disease is transmitted from the nasopharynx to the eye by more than one way: it may be by direct microbian contamination along the lachrymal passages; by mechanical obstruction of the nasal duct at its lower end or in its canal, with resulting pathologic changes; by propagation through the blood-vessels and lymphatics; by toxin poisoning; or it may be by reflex nervous influences. It is in any or all of these ways that pathologic alterations of the mucosa of the nose and nasopharynx can bring about secondary changes in the organ of vision and its adnexa.

Enough, however, has been brought forward to show at least the importance of examining the nose and nasopharynx when dealing with eye troubles of doubtful causation or intractable to local treatment. It has often been my experience to find nasal trouble present in cases of intractable asthenopia, and also of recurring conjunctivitis, which were benefited by the cure of the nasal complication, but I have never seen a case when I was satisfied this was the sole cause of the ocular trouble. For example, I have seen reflex trouble, such as blepharospasm, temporarily benefited by nasal treatment, which recurred later, and was found to have an ocular cause underlying it. This, however, does not apply to disease of the lachrymal apparatus in which, as previously stated, I feel assured that the nasal treatment is of as much avail, and often as necessary, as the treatment of the eye, to prevent frequent relapses.

EYE TROUBLES SUPPOSED TO BE DUE TO AURAL AFFECTIONS.

The connection between the eye and ear is one long known and often discussed. Medical literature is filled with references to this relationship in its anatomic, physiologic and pathologic aspects.

Anatomically they are connected, 1, by way of the brain envelopes and the proximity of their nerve nuclei; 2, by the anastomosis of the superior cervical plexus and the auriculotemporal with the facial at the mastoid apex, and by the branches of the tympanic plexus, which innervate the lining of the drum and the mastoid cells; and 3, by the circulation.

Physiologically they are connected by the functional action of the trigeminus; by the supposed physiologic influence of the semicircular canals; and by the peculiar phenomena observed in the reaction of sight and hearing on one another, in the conjoined action of one sense on stimulation of the other.

It has been shown by Duval, Laborde and others, that lesions of the trigeminus can bring about trophic disturbances in the eye at the same time—keratitis—and in the ear, and that certain pathologic conditions of the ear can by extension to the trigeminus at the level of the Gasserian ganglion give rise to ocular lesions, chiefly of a reflex character. The investigations of Cyon, Baginsky, Hogyes, etc., show that lesions of the semicircular canals can produce various ocular disturbances.

As for the peculiar phenomena referred to, such as light and color sensations caused by perception of sound, they have so far not been satisfactorily explained; but we know that in some people, especially those of high-strung nervous organization, or so-called neurasthenics, the perception of a certain sound or tone causes at the same time the perception of a particular color—the eye functions being undisturbed—which, I suppose, under other conditions could be reversed, and although it probably has its origin in the nerve-centers, and not in peripheral excitation of these special organs, it shows an intimate connection between them, the nature of which has yet to be elucidated. The physiologic relationship is also shown by d'Arsonval's experience in becoming deaf for one to one and a half hours after steadily gazing at an arc light for some minutes. Waldeyer's morphologic parallel between these two organs is familiar to you all.

Retina analogue of organ of Corti.
Choroid analogue of connective tissue wall of cochlear duct.
Sclerotic analogue of bony labyrinth capsule.
Conjunct. sac analogue of tympanum.
Cornea analogue of membrana tympani.
Nasal duct analogue of Eustachian tube.
Orbit analogue of bony auditory meatus.

From these anatomic and physiologic relations we can see that it is not unnatural to look for some pathologic connection between troubles of the eye and ear.

Blepharospasm apparently results from cerumen impaction, foreign bodies in the external ear and syringing the ear—Rampoldi, Ziem, Buzzard, etc.; also from the presence of pus or polyps in the drum—Deleau, Duterné, Gottstein.

Blurred and double vision have also been reported as having resulted from examinations, traumatisms and diseases of the external ear.

Lachrymation, ciliary neuralgia and muscular disturbances have appeared as a sequence of traumatisms, causing lesions of the drum.

Amblyopia and contracted field for both light and color have seemingly been caused by obstruction of the Eustachian tube, and improved by catheterization—Kisselbach and Wolfberg. Contraction of the field was also observed by Lucae, from the use of the air douche in the external canal in perforation of the drum, probably due to irritation of the tympanic plexus.

Gervais reported strabismus with myosis from mastoid inflammation, which disappeared when the abscess was opened.

Troubles of the accommodation have been observed from irritation of the branches of the trigeminus in the organ of hearing, and cured by the improvement of the aural condition—Politzer, Wolfberg, Urbantschitch.

Nystagmus is probably one of the most commonly reported eye reflexes from the ear. Baginski's experiments on rabbits in this line are well known, and show the muscular disturbance to arise from water thrown into the ear, and from disease of the labyrinth and semicircular canals—Jansen, Cohn, Kipp, Urbantschitsch.

Nystagmus should be watched for carefully, as it is sometimes so slight that it is not perceived by the patient. It is more readily noticeable when it occurs from syringing the ear in suppuration of the drum, and is nearly always from labyrinthine irritation—occasionally it accompanies meningitis of aural origin, or thrombosis about the petrous bone. Geronzi—October, 1897—reported a case from an acute non-suppurative middle ear inflammation, following influenza. There was also diplopia in outer parts of the entire field. Singer[12] reported a case following a Stacke operation, whenever pressure was made on the drum, or the air in the external meatus was rarified. The pupils dilated at the same time. Urbantschitsch also reported a case of aural polyps in which nystagmus was produced each time the polyp was pressed on. Phluger[13] had several years previously reported a similar case. Gruber has also seen such cases.

Abducens paralysis has been observed in one or two cases of intracranial involvement, and recently—German Otological Society, May, 1898—Habermann reported a case of middle-ear suppuration cured in ten days, but which relapsed in three weeks, with headache and sudden paralysis of the abducens. The dura was exposed and found hyperemic only. The paralysis, which was permanent, was supposed to be due to extension of the inflammation into the petrous and sphenoid bones. In the discussion that followed Katz stated he had seen the same thing due to meningitis caused by ear trouble. Brüeger had also seen it in what was supposed to be latent meningitis of aural origin. Mann had seen it in perisinuous (?) abscess. Jansen thought it due to serous meningitis, dependent on sinus thrombosis or epidural abscess. Habermann, however, concluded that sinus trouble could be excluded, as he had seen abducens paralysis on the opposite side from the ear trouble.

Paralysis of the orbicularis has been observed as resulting from foreign bodies in the external ear—non-perforating catarrh of the drum, purulent otitis media, etc.

Hippus—alternating contraction and dilatation of the pupils—has been observed by Pisenti[14] in a person with chronic middle ear catarrh, each time the Eustachian catheter was used, and each time air was driven into the drum. Reflex might be by three ways:

1. Irritation of the trigeminal branches in the floor of the nose, transmitted to the sensory root of the opthalmic ganglion. 2. Irritation of the posterior and inferior ethmoidal nerves and transmitted by the ophthalmic ganglion to filaments of the oculomotor. 3. Irritation of the internal ear by dilatation of the drum and transmitted from the ampulla to Deiter's nucleus and thence to the nuclei of the sixth and third pairs.

Purulent choroido-iritis from purulent otitis is reported by Kipp and Pomeroy, either of metastatic origin from emboli, or possibly by extension to brain envelopes and along optic nerve sheaths to the eye. Panas[15] ("L' auto-infection dans les maladies oculaire") reports a similar case in the service of Dr. Quénu, except that the metastatic panophthalmitis was on the opposite side from the diseased ear, the eye on the same side remaining intact.

Orbital cellulitis, with secondary neuritis and amblyopia, has also been observed by the same author, as the result of purulent otitis media, which was cured by injection of antistreptococcus serum when ordinary measures had failed.

Obscuration of visual field and keratitis have been observed by Knapp—mydriasis and hemiopia by Moos, in Meniére's disease; whether as a sequence or coincidence is doubtful.

Schwartze has reported a case of progressive amblyopia in a subject of an acute affection of the acoustic nerve, which was arrested and cured by leeching.

Statistics of deaf mutes show a larger number of cases of amblyopia—G. Mayer, Schermer, Gellé, Schmolz and others.

Wyatt Wingrave—October, 1897—reported a case of tuberculosis of the ear with optic neuritis. There was a discharge from the ear, but the general health was perfect. He thought it might be due to latent meningitis, or a tuberculous gumma. The good health, however, was a contraindication of meningitis, and the age, only 25, of gumma.

Optic neuritis is also frequently found in connection with mastoid abscess, suppuration of the drum, and their intracranial complications. Exophthalmus and strabismus are also found in the same connection—Zaufal, Kipp, Schwartze and others. Paralysis of the oculomotor nerves and homonymous hemianopsia have also been observed from the same causation.

These ocular manifestations, resulting from suppurative otitis, are of especial diagnostic significance in determining the necessity of operative intervention. While optic neuritis is not a constant symptom of meningitis, or cerebral abscess, it usually indicates some participation of the brain or its envelopes with the ear trouble. It, like all other so-called diagnostic signs, might be misleading under unusual conditions. I have seen a case of middle ear suppuration, intractable to treatment, cured by opening the mastoid, consent of the patient being obtained only by my assurance of probable intracranial complications, because of the advent of optic neuritis. The operation showed there was no intracranial trouble due to the ear disease, the neuritis being only a coincidence, and not a sequence. This, however, does not materially detract from the value of neuritis as a symptom of brain involvement. When exophthalmus and swelling of the eyelid accompany the neuritis, we can be reasonably sure of thrombosis.

When we analyze the recorded cases of ocular phenomena in aural troubles, we find that there is occasionally some uncertainty about the connection of the two. It is easy to understand why photophobia, eye pain, etc., can be a sequence of ear trouble, because of the intimate nervous connection by the trigeminus branches, but it is hard to see how amblyopia can result from uncomplicated inflammation of the middle ear, even in deafmutism, although in such cases the visual function may be prevented from attaining its complete development, just as there may be arrest of development of the cerebral centers. Badal also calls attention to the frequency of serious trouble of the fundus oculi in these cases. In regard to nystagmus, I can not see how it may be physiologically explained by the reflex irritation, without some complication of the internal ear.

The question of ocular troubles in vertigo and Meniére's disease is involved in obscurity, although, according to Mendel (Berlin), vertigo is a collection of symptoms determined by an alteration of the sense of equilibrium, combined with defective function of the eye muscles. Probably, however, the eye examination may help to make a diagnosis between Meniére's disease and a cerebellar lesion.

Still, while much is yet to be explained in regard to pathologic influence of the ear on the eye, we may conclude from what we have before us that the influence really exists, and is exerted by both direct and indirect propagation, by way of the nerve tract and by the blood current.

BIBLIOGRAPHY.

1. Annales d'oculistique, June, 1897.
2. Recueil d'ophthalmologie.
3. Med. Presse, Feb., 1896.
4. Archiv. Ital. di Otol., Rhin., etc.
5. JOURNAL, May 21, 1898.
6. Oph. Record, Jan., 1898.
7. L'auto-infection dans les Maladies Oculaires.
8. Annales d'oculistique, Jan., 1895.
9. Loc. cit.
10. Trans. Intercollegiate Congress of Australasia, 1889.
11. Archives of Otology, Oct., 1898.
12. Munch. Med. Woch, June, 1898.
13. Berliner Klin. Woch., 1891.
14. Bul. de l'Acad. de Med., Peruga, 1897.
15. Archives d'Ophthal., May, 1897.

DISCUSSION.

DR. HOLMES—I can only make a very few remarks on this subject, because of lack of time. Dr. Bull deserves the thanks of the ASSOCIATION for such a terse and instructive paper. It is my experience that the frontal sinus is not so often attacked as we assume. I had opened the sinus a number of times a matter of exploration where there was every evidence of disease, but found that it was limited to the ethmoidal or sphenoidal cells, and at times to the antrum of Highmore. I agree with the Doctor that the lamp test for the frontal sinus is of little or no value. The danger of treating the frontal sinus through the nose is such that I think it should not be undertaken except in the rarest cases. I attempted it a number of years ago, but after dissecting a great many specimens, I demonstrated how impossible it is to do this without danger, especially when the parts are softened by disease. The liability of invading the cerebral cavity is greater and quite a number of deaths have resulted. If I wish to know anything about the sinus, I prefer to make an exploratory opening, which can be made small, and at the end of the week nothing is left but a small white line, and in the course of a month or two nothing at all to show that any operation has been done. If you find disease you can easily enlarge the opening.

With regard to the maxillary antrum, I do not believe that the teeth play a very important part in disease of the antrum of Highmore; I believe it comes from the nose in the vast majority of cases, and I base that opinion on the extensive examination of cadavers. It is true that once in a while it may occur from the teeth, for bad dentistry, fracture of the process, etc., may cause it. I have seen quite a number of antrum affections with little or no complications relating to the eye, and it is my limited experience that we do not get eye symptoms so often in diseases of the antrum of Highmore as we do in diseases of the frontal, ethmoidal or sphenoidal sinuses. The illumination test for the antrum of Highmore is very important, but I should not place any value on any test excepting that which gives the red reflex from the pupil; I am not speaking of the new test, the retromaxillary illumination, but of the ordinary tests, and with those I feel safe in assuming the presence of infection if I do not get a pupil reflex. I have often injected water into one sinus and then made the test, getting the pupil dark; then evacuating the sinus I would again get the pupillary reflex, showing that even a small quantity of fluid can be detected.

Now I wish to say one word about iodoform. I have not used it for five years, for it is an abominable drug. I am satisfied that we get quite as good results without that stinking drug anywhere about our patients and I do not see how we can justify ourselves in continuing to use it, especially as it has been associated with diseases that patients would not like to be charged with.

As to the majority of cases being cured in six weeks, I am sorry to say that mine are not. I have some that have been going on for five years, with large openings through the canine fossa, and there are cases no one could cure. Of course the acute cases may be cured quickly.

SOME OF THE WAYS IN WHICH X-RAYS ASSIST IN MEDICAL DIAGNOSIS.*

BY FRANCIS H. WILLIAMS, M.D.
BOSTON.

For satisfactory medical work with the X-rays, the first requisite is an efficient apparatus, the second, experience in examining a large number of cases.

It is impracticable in so short a paper to describe and compare the advantages and disadvantages of the various forms of static machines and coils that have been used to excite vacuum tubes, but I present photographs of the static machine I have been using at the Boston City Hospital for some time past, which give in themselves a sufficient idea of the machine and of my method of examining patients. The patients are brought to the X-ray room on a stretcher, that fits wooden horses placed in front of the machine, so that they are spared all possible fatigue. This machine has four revolving plates, six feet in diameter, and four fixed plates, six feet four inches in diameter. In Europe they are using coils more than static machines.

The vacuum tube is the part of the X-ray outfit that demands the most care and study by the physician. Those designed by Dr. William H. Rollins of Boston I have found excellent for my purpose. They are provided with his regenerators for lowering the vacuum, and the anode in one form is so constructed as to be readily rotated if the energy used is sufficient to melt a hole through the platinum; in another form the anode is hollow and can be easily cooled by passing a stream of water through its interior. These vacuum tubes are the only ones, so far as I am aware, that withstand a very powerful exciter.

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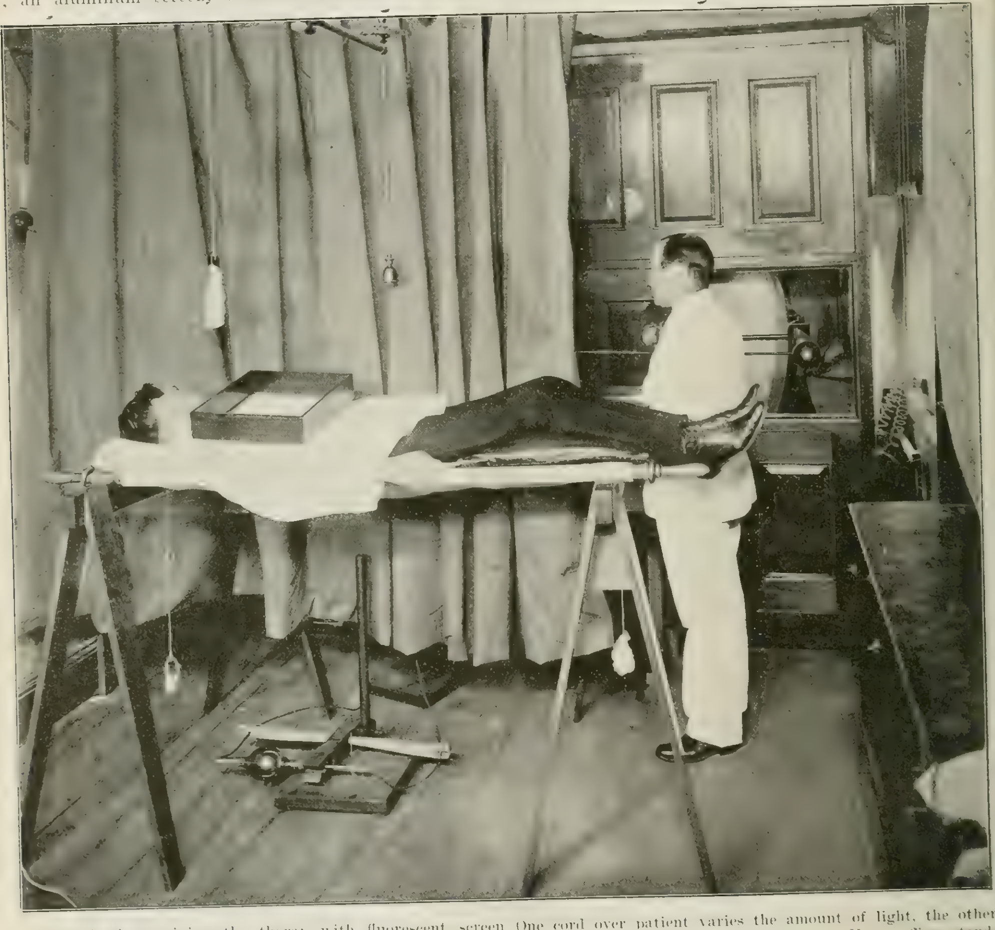
*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

To avoid X-ray burns, two simple precautions should be taken: 1, the tube should be placed at some distance from the patient—in examining the chest it is well to have the fluorescent screen 3½ feet from the tube; 2, an aluminum screen, which should be grounded, should be interposed between the tube and the patient. I speak of the question of burns because, in the early use of the X-rays, cases of such burns were reported, and these cases have given rise to the idea in the minds of many that there is danger attending X-ray examinations, but if the precautions just mentioned are taken, there is no danger whatsoever. X-ray examinations have been in use at the Boston City Hospital about three years. Some three thousand such examinations have been made there, and no one has suffered any inconvenience even from them.



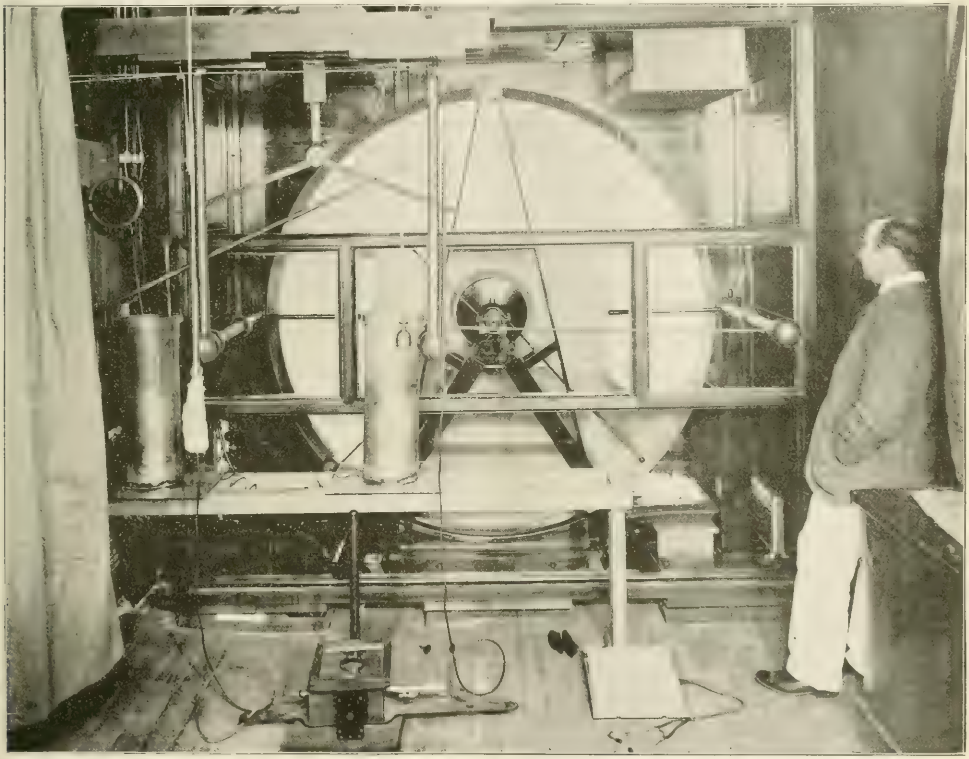
Method of examining the thorax with fluorescent screen One cord over patient varies the amount of light, the other shuts it off. Aluminum screen over Crookes' tube not shown. Curtain drawn aside to show end of case. House officer standing at the foot of the patient shows proportions of apparatus.

There are two ways in which X-ray examinations may be made. One is by means of X-ray photographs and the other by the fluorescent screen. Each has its special field of usefulness.

In taking X-ray photographs it is necessary to know where to place the Crookes tube in relation to the photographic plate, in order to get a good picture and to bring out most advantageously the particular part it is desired to see. This requires practice and an elementary knowledge of physics. It is needless to say that for many photographs the tube should be three feet or more from the plate, in order to avoid distortion and obtain good definition.

X-ray examinations with the fluorescent screen are more readily made in certain cases, in the chest, for example, than by an X-ray photograph, and the screen has the further advantage of permitting the physician to follow the movements of the heart and lungs during respiration. The outlines of the heart, lungs, and diaphragm are also more sharply defined on the screen than in an X-ray photograph. The tube, in chest examinations, should be 3½ feet away from and under the median line, where it is crossed by the line joining the fourth ribs. Records of examinations made with the fluorescent screen may be kept by tracing on the skin the outlines seen on the screen, and then transferring them to tracing cloth.

If the outlines are drawn on the skin during full inspiration, the physician must appreciate that it moves somewhat and by this movement the position of the horizontal lines especially may be a little affected. I pointed this out in 1896. But the lines may be drawn on a piece of paper suitably supported just above the patient, or on a transparent film or thin glass placed over the fluorescent screen, instead of on the skin, thus eliminating the error that might arise from the movement of the skin, if especial care is not taken. By the latter method it is often unnecessary to remove the clothing.



Static machine designed by Francis H. Williams, M.D. Four glass plates six feet in diameter, four glass plates six feet four inches in diameter. Speed may be varied from 50 to 275 revolutions per minute. House officer on right of picture suggests proportions of machine.

Examinations, especially of the chest, may be made from the front, from behind, transversely, and diagonally with the fluorescent screen. To examine a part while the body is being turned is not possible by photography, but it can be done with the screen. When a picture of the bones is desired, the X-ray photograph has advantages. Speaking generally, however, the examination with the fluorescent screen is the more satisfactory method.

The surgical uses of the X-rays are many and need not be considered before this Section. I will merely describe a simple method of locating foreign bodies in all parts of the body, including the head.

Everything being in readiness, the fluoroscope is placed directly on the thigh—let us suppose a bullet is there—and the examination is begun. After looking a moment the spark-gap may be changed a little in order to increase or diminish the light, as by means of this variation more can be seen, certain things showing better in a bright light and others in a less brilliant one. With the bullet it is generally well to use a considerable amount of light. After the fluoroscope has been moved about a little and the shadow of the bullet found, the spark-gap may again be changed in order to get as clear a shadow as possible. The physician, while still looking through the fluoroscope, then makes, with a suitable pencil[1] a mark over the place where the bullet seems to be, and directly under the fluoroscope; he then makes a corresponding mark on the side of the thigh nearest the Crookes tube, over the shadow of the bullet, and draws 1 and 1 by the side of each of these two marks. Then, while still looking through the fluoroscope, the Crookes' tube should be moved, horizontally, a few inches to and fro in order to learn how deeply the bullet is embedded, for if the shadow of the bullet moves considerably in the fluoroscope, the bullet is some distance away; if it moves very little it must be near the fluoroscope and the surface of the skin; if far from the surface, its shadow will be ill-defined; if near, it will be very sharply defined. Next, the patient should be turned so as to allow the physician to look through the thigh in a direction about at right-angles to that first taken, and, as before, a mark should be made with the pencil over the place where the bullet seems to be, both when the point of the pencil is held directly under the fluoroscope and on the side of the thigh nearest the Crookes tube. These points should be marked 2 and 2, and the bullet will be found at the point where the line drawn from 1 to 1 intersects that drawn from 2 to 2. I have used this method for locating bullets in different parts of the extremities, and in the neck, thorax, back and head, and usually the situation of the bullet is readily determined by this means. The first bullet I located in this way was in April, 1896. Of course, if it is more convenient to move the tube into another position this may be done instead of turning the patient.

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[1] The pencil consists of a metal tube six inches long and about one-quarter of an inch in diameter, one end of which carries a crayon suitable for marking on the skin. The metal tube casts a shadow on the fluorescent screen and its point can therefore be readily followed. To prevent the marks from being rubbed out, when the skin is washed with an antiseptic for operation, a stick of nitrate of potassium may be used instead of the crayon, or the marks may be retouched with tincture of iodin.

For physicians, the most useful field at present lies in the thorax. There X-ray examinations aid us to detect most aneurysms of the thoracic aorta, central pneumonia, emphysema, early pulmonary tuberculosis, fluid in the chest, as in pleurisy or empyema, pneumopyothorax, etc. In cases where we are in doubt as to the cause of dulness in the lower part of the chest, and hesitate between a pleuritic effusion or a thickened membrane, for example, an X-ray examination can establish the fact that fluid is not present, for if there is no fluid the outline of the diaphragm is clearly defined on the fluorescent screen.

In diseases of the lungs X-ray examinations with the screen have an advantage over percussion, in that changes in the central portion of the lung are seen by their means, as in central pneumonia, whereas percussion is limited to the more superficial portions of the lungs. But the value of a method depends to some extent on the frequency with which the diseases where it is of use are encountered. This method then is especially valuable in pulmonary tuberculosis, as the disease is of such common occurrence. We may frequently recognize, on the fluorescent screen, abnormal appearances in the lungs before physical signs have led us to suspect the condition of these organs. We can define the extent of the disease, watch its progress or improvement, and question the trustworthiness of physical signs when they are not confirmed by X-ray examinations. It is evident, therefore, that the X-ray examinations assist us to give our patients better advice, particularly as regards their going away or remaining at home.

In acute miliary tuberculosis the fluorescent screen may frequently direct us as to a correct diagnosis where this disease would otherwise be overlooked. I have, however, so often spoken of the value of X-ray examinations in pulmonary tuberculosis that it is unnecessary to go into this subject further on this occasion.

Hydatid cyst of the lung, new growths, an encysted pleurisy, abscess of the lung, calcification of the pleura, may be located by X-ray examinations.

Tumors of the esophagus may in some cases be recognized; in the act of swallowing there is an upward movement of the shadow on the fluorescent screen which assists in making the tumor distinguishable. In the throat we may easily recognize the larynx, the trachea, cartilages, and the hyoid bone, by an X-ray photograph, and in the head we may readily follow both the inner and the outer side of the skull, and recognize bony growths in parts of its inner surface, or see depressions of the skull. In one case a tumor of the brain has been reported which was recognized by means of an X-ray photograph, and its presence was confirmed by a postmortem examination. The skull of this patient was unusually thin.

In the abdomen we may, under favorable conditions, see on the screen the outline of the spleen, liver, and left kidney. By giving subnitrate of bismuth—which is opaque to the rays—with a meal, the outline, position, and size of the stomach may be seen, and its diminution in size during the process of digestion and the changes in outline during its peristaltic movements may be followed. Experiments on this subject, which Mr. W. B. Cannon made with me in 1898, will be published, I hope, before long. If the stomach or large intestine be distended with some gas they show as light areas on the screen; the sigmoid flexure and descending colon for example in detail. By this method these and adjacent organs may be examined.

The kidneys, when they contain certain calculi, offer an excellent field for diagnosis by means of X-ray photographs. For two or more years this field of usefulness has been explored and a number of cases of successful location of certain renal calculi have been reported, in which the diagnosis has been confirmed by finding the calculi by operation.

It seems necessary to repeat the warning which I gave more than two and one-half years ago, that we are not likely to recognize all forms of renal calculi by means of X-ray photographs, and too sweeping assertions as to their universal application in this respect should be received with caution. Some time ago I published a reproduction of an X-ray photograph that I made in 1896, of calculi containing phosphates, oxalate of calcium, and uric acid, which showed that calculi made up of organic substances, such as uric acid, do not cast a shadow which differs much from that cast by the soft tissues, whereas those containing inorganic or mineral salts, such as phosphate or oxalate of calcium, cast a marked shadow. The simple inference is that when by an X-ray photograph we get evidence of a renal calculus, we may safely predict that it contains mineral salts, but where no evidence of a calculus is found by the X-ray photograph, we are not justified in asserting that one is not present, for there may be one made up chiefly of organic matter—the most common form—which has not been revealed by the photograph. Further, we should bear in mind the relatively greater frequency of calculi having organic matter rather than mineral constituents.

Gall-stones are unfortunately of such a composition that they do not cast much shadow and do not, therefore, offer a good opportunity for detection by this method.

In the pelvis we may recognize the presence of bony deformities, by means of an X-ray photograph, and determine the size of the openings, and whether or not the pelvis is normal; this field will prove a useful one for study by obstetricians. One case is reported where an X-ray examination assisted in making the diagnosis of extra-uterine pregnancy, and this diagnosis was confirmed.

Gout and rheumatism may be distinguished from each other by means of an X-ray photograph.

In acromegaly the progress of the disease and improvement under treatment may be followed by means of X-ray photographs. One case of this disease is reported in which an X-ray examination showed that there were no changes in the bones of the hands.

The arteries also offer a field for these examinations. In 1896 I showed photographs in which certain normal arteries could be seen, and this encouraged me to study this method with reference to arteriosclerosis; when the arteries are calcified they may of course be readily photographed. We may also be led to suspect arteriosclerosis by observing the size of the heart on the fluorescent screen, and may be enabled to estimate in part the progress of the disease in some cases by the amount of enlargement of the left side of the heart; we should be able to recognize the later stage of the disease when the right side has likewise become enlarged.

A calcified aorta near the heart, in one of my patients, cast a dark shadow on the fluorescent screen and was afterward found at the post-mortem examination.

An enlarged pulmonary artery in persistence of the ductus arteriosus may be seen on the screen.

In diseases of the heart the fluorescent screen gives us a means of determining the size, position, mobility, and action of this organ more fully and more accurately than has hitherto been possible. We may not only follow the outlines of the heart more completely than before, but we may distinguish enlargement of the left or of the right ventricle; further, we may also, for example, follow the pulsation of the right auricle as well as of the left ventricle, and we may distinguish enlargement of the pulmonary artery in certain conditions. In aortic insufficiency an abnormally extensive excursion of the left ventricle between systole and diastole may be recognized. The irregular, weak and strong contraction of the ventricle in some cardiac diseases may be followed, and the improvement in the action of the heart noted after the use of digitalis. A diminution in the size of the heart in cardiac disease may be seen to follow rest and digitalis. A transposed heart is easily recognized.

Since 1896 I have urged the more general use of X-ray examinations for infants and children, and I desire to take this opportunity to direct attention to the readiness with which these examinations may be made in young patients. Not only the thorax, but the head and the various organs in the abdomen may be more easily examined than in adults. It is not necessary to excite the child by removing the clothing. Infants may be examined with the screen, or X-ray photographs may be taken while they are asleep.

Clinical Report.

ADENOMA OF THE URETHRA.

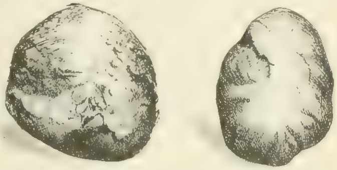
BY G. FRANK LYDSTON, M.D.

Professor of the Surgery of the Genito-Urinary Organs in the Medical Department of the University of Illinois.

CHICAGO.

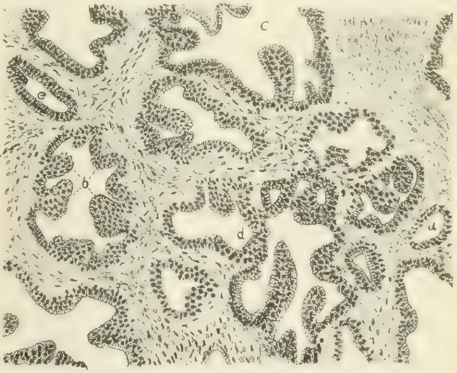
The following unusual case of urethral tumor is especially interesting as showing the possibility of the existence of a neoplasm of considerable size in the lower urinary way without producing obstruction to the urinary outflow.

W. H., aged 23, a furniture dealer, presented himself with the following history: Heredity good; denies venereal disease of any kind; has drunk to excess at times, but is not a constant drinker; has had no injury so far as he can remember. Three years ago he began to have pains in the hypogastrium and frequent micturition. Despite treatment of various kinds these symptoms have persisted and grown steadily worse. The symptoms have been intermittent, lasting a week or two and then for a time ceasing altogether. There is now pain and burning at the head of the penis. All the symptoms are worse when he gets about actively. During the week before consulting me, the symptoms had been very annoying. The appetite is good, the bowel function normal, and the urine approximately normal, save for deep urethral shreds, although the patient states that it has been very cloudy at times. There has never been any hematuria. There has been no polyuria, according to the history, and at no time lumbar pain.



Urethral Adenoma.

Exploration showed the bladder to be free from stone. The prostate was enlarged and tender and evidently the seat of chronic inflammation. There was no organic urethral obstruction, but great pain and spasm of the membranous urethra was excited by the passage of the instrument. It so happened that my battery was not in working order, hence no urethroscopic or cystoscopic examination was made. The condition seemed to be clearly chronic inflammation of the prostate and deep urethra, with hypertrophy of the membranous urethra as a consequence of frequent and spasmodic micturition. As the patient was from out of town and had already received very intelligent and persistent treatment, I suggested perineal cystotomy with dilatation of the vesical neck as likely to afford the best and speediest results.



Urethral Adenoma.

a—Normal gland tissue. *b*—Epithelium projecting into gland, forming papillæ. *c*—Cystic gland. *d*—Epithelium heaped up in single layer *e*—**Columnar epithelium.**

An ordinary perineal boutonniere was made and the bladder entered with the index finger, the vesical neck being thoroughly dilated. While making a careful digital examination of the perineal and deep urethra, I felt a little irregularity of the urethral surface on the right lateral and inferior aspect of the bulbous region. While examining this carefully, it began to detach itself from the urethral lining, assuming a tumor-like aspect. I proceeded to dissect this up with the finger and finally freed a distinct, somewhat lobulated tumor that seemed to proceed from the base of the bulbous urethra on the right side. There appeared to be a narrow prolongation of the growth that was gradually lost in a distinct minute opening in the triangular ligament, corresponding approximately to the location of the right Cowper's duct.

The tumor was removed without difficulty and was evidently adenoma, a diagnosis that was confirmed by the histologic study of the neoplasm. Quite a quantity of the glandular tissue broke down under the finger and came away as débris. Two distinct lobes, however, were removed intact. The illustrations (Figs. 1 and 2) show their natural size. The mass, of which the specimens shown formed the major part, was so closely adherent to the urethral wall that the instruments did not catch on it in their passage. Strange to say, the growth seemed to have developed in the direction of the wall of the urethra, rather than toward the lumen. The bed of the neoplasm formed a distinct cavity. Recovery was uninterrupted, and when the patient was last heard from he was free from all symptoms save a little increase in the frequency of micturition.

Therapeutics.

Exaggerations of Treatment in Diabetes.

In a recent lecture, says *Health*, Dr. Dieulafoy spoke of the reaction which had taken place against over-treatment in diabetes. He divides the cases into two categories, calling the first the mild (*petit*) and the second the severe (*gros*) form. The former includes those in which the quantity of sugar does not exceed 10 to 15 gm. in the twenty-four hours; these have no marked import; and may pass unnoticed for a long time, because of the absence of such tell-tale signs as carbuncles, etc. In the severe form the patient urinates from 100 to 200 gm. or more of sugar. In spite of this enormous loss, these patients are not necessarily more threatened than the others, and there are those among them who, without any precautions, stand this sugar loss quite well. Attention is drawn to the co-existence of azoturic with saccharine diabetes. As to treatment, if 25 to 30 gm. of sugar is passed, it is not necessary to resort to the severe régime so often forced on patients. The chief point is to see to it that the patient does not lose flesh. It is a mistake to restrict the diet to the extent to which it is often done. Antipyrin, gr. xv., given morning and night, with bicarbonate of sodium, gr. vii-viii, will show a disappearance from the urine of from 30 to 50 gm. of sugar within thirty-six hours. The speaker prefers, instead of Fowler's solution, the arsenate of sodium in solution of 3 cg. to 80 gm. of water, of which a teaspoonful is taken at each meal. He also believes that it is not necessary to suppress milk in the dietary because of the lactose it contains, but thinks it should be given. Lactose is not transformed into glucose. In the case of severe diabetes the patient should be allowed to drink freely to wash out the sugar instead cf letting it accumulate. If antipyrin does not act well, we must tack about and give arsenate of sodium.

Drug Treatment of Acute Pleurisy.

Opium is a peculiarly potent remedy in this malady, says Butler, in the *Med. Standard*, April, 1899. By its action on the respiratory center the respirations are decreased in number, thus affording physiologic rest to the chest wall; its vasomotor action tends to relieve the pleural congestion by dilating the cutaneous vessels, and its narcotic effect relieves the pain, and allays the cough, thus meeting all the indications for which the external remedies are applied.

Indeed, the early administration of a quarter of a grain of morphin may so ameliorate an attack of pleurisy that the physician may be saved the vigorous external treatment which otherwise he might be compelled later to adopt.

The opiate may be given either per orem or hypodermically in the form of morphin, the latter method being preferable, especially when there is gastric irritation, and perhaps of additional potency when injected over the seat of pain.

The patient should be kept under the influence of this drug during the acute stages of the disease, the dose being determined by its result rather than by any arbitrary limit of dosage.

In conjunction with the opiate, one of the coal-tar antipyretics may be advantageously administered. They not only control the fever, but are powerful adjuvants to the analgesic action of opium, and in some cases accompanied by a rheumatic tendency they seem to have a marked and specific antirheumatic value, and according to some authorities should be invariably preferred to the salicylates. Of these drugs kryofin, phenacetin, antipyrin or acetanilid are preferable, in five to ten-gain doses every two or three hours, in powders or capsules.

Should malaria be a complicating condition, quinin may very properly be combined with the foregoing, though it is usually preferable to give the quinin alone.

While opium is the drug upon which greatest reliance is placed, yet the pain of certain mild cases of pleurisy may be effectually controlled by kryofin or one of the other antipyretics mentioned above, these being especially desirable in those cases in which for any reason opium is contraindicated.

If the pain is severe, with but moderate elevation of temperature not exceeding 102, he resorts to the hypodermic administration of morphin and gives the following prescription in preference to any of the coal-tar derivatives:

℞.	Tinct. aconiti	m. x
	Spiritus etheris nitrosi	ʒii
	Liq. potassii citratis	℥iii
	Syrupi tolutani, q. s. ad	℥iv

M. Sig. Two teaspoonfuls every hour.

Treatment of Herpes Zoster.

J. A. Cantrell says, in the *Maryland Medical Journal*, that it is seldom necessary to use extreme measures in the treatment of this affection, as usually a local or constitutional reaction calls for special medication. External measures should be especially directed toward the avoidance of unnecessary friction and the rupture of the vesicles. If this occurs, the pain is increased. Internal remedies are called for in those types in which there is extreme constitutional depression, such as is described in the ophthalmic variety. For external application the author gives the following formulæ:

℞.	Bismuthi subnitratis	ʒi
	Petrolatum vel. ungt. zinci ox	ʒvii

M. Sig. Apply directly to the affected areas thrice daily.

℞.	Salol	ʒiss.
	Ether	℥i

M. Sig. Apply with a brush directly to the lesions once, twice or thrice during the day.

℞.	Morphinæ	gr. i-ii
	Lanolin	℥i

M. Sig. Apply several times daily.

Where there is extreme irritation and where the slightest touch of the clothing causes severe pain, collodion applied directly over the part may give relief.

Cough.

Dr. L. M. Taylor, Washington, D. C., writes to *Merck's Archives* that the following prescription has given general satisfaction in his practice:

R.	Chloralis	gr. lxiv
	Ammon carb.	gr. xxxii
	Ext. ipecac fluidi	ʒi
	Spt. etheris nitrosi	ʒii
	Syrupi picis liq.	
	Syrupi pruni virg.	
	Syrupi tolu	
	Tinct. opii camph., āā	℥i

M. Sig. Shake well and take a teaspoonful when cough is troublesome.

Remedies Influencing the Exudate.

Remedies which are believed to have some direct influence on the exudate, changing its character from fibrinous to a serous nature, thus hastening absorption, are the iodids and the alkalies and, upon empirical grounds, the potassium, sodium or ammonium iodid may be given in moderate doses. Of the alkalies the ammonium compounds are most serviceable, and they may be used in various combinations, of which the following are examples, especially valuable if there be an associated cough.

℞. Ammonii chloridi
Ammonii carbonatis, āā......................ʒi
Tinct. cubebæ......................ʒiiss.
Syrupi tolutani, q. s. ad......................℥ii
M. Sig. Teaspoonful in water every three or four hours.

℞. Liq. ammonii acetatis......................ʒi
Ammonii carbonatis......................gr. xxx
Syrupi tolutani, q. s. ad......................℥iv
Spiritus etheris nitrosi......................ʒiv
M. Sig. Dessertspoonful in water every three hours.

Treatment of Pertussis.

The following collection of prescriptions for this disease may be of value at this season of the year.

℞. Bromoform ....gtt. xlviii
Olei amygdalæ expressi......................gtt. xx
Pulv. tragacanth......................ʒii
Pulv. acacia......................ʒiv
Aquæ laurocerasi......................fl. ʒiv
Aquæ destil., q. s., ad......................fl. ʒxii

Half a teaspoonful of this mixture contains about two drops of bromoform. Sig. Give from one to four teaspoonfuls, in divided doses, per day and gradually increase to eight teaspoonfuls per day. —*Radias: Med. Record.*

℞. Bromoform ....fl. ʒi
Tinct. tolu......................fl. ʒii
Syrup tolu......................fl. ℥i
Mucilage acaciæ......................fl. ʒiv
Aquæ menthæ vir, q.s., ad......................fl. ℥iv

M. Mix the bromoform with the tincture of tolu, add gradually to a mixture of the syrup and mucilage, shake well, dilute with the spearmint water, and give a teaspoonful three times a day, gradually increasing until six or eight teaspoonfuls are taken in divided doses per day.—*Scoville: Med. News.*

℞. Resorcin ....gr. xxx
Antipyrin ....gr. xv
Tinct. belladonnæ......................gtt. viii
Tinct. opii......................gtt. iii
Syrup codein......................fl. ʒiiss
Syrup tolu......................fl. ʒv
Aquæ destil......................fl. ℥iiss

M. Sig. Teaspoonful for infants; dessertspoonful for children from one to three years; tablespoonful for children over three years.—*Concetti: La Sem. Med.*

℞. Resorcini ....gr. xxv
Aquæ ....fl. ℥ii

M. Sig. Spray or apply with a throat brush to the glottis every four hours.—*Roskaw: Denver Med. Times.*

℞. Phenacetin ....ʒiii
Tinct. belladonna......................fl. ʒii
Whisky ....fl. ℥i
Fld: ext. chestnut leaves......................fl. ℥vi

M. Sig. Teaspoonful every three hours until the face flushes: then every three, four or six hours as needed to control the cough, in a child of 6 years.—*Lancaster: Florida Health Notes.*

℞. Antipyrin ....gr. viii-xvi
Ammonium bromid......................gr. xvi-xxxii
Ammonium chlorid......................gr. lxxx
Syrup, q. s., ad......................fl. ℥ii
M. Sig. Teaspoonful every three to six hours.—*Med. Record.*

℞. Tinct. digitalis......................m. xv
Antipyrin ....gr. xxx
Camphorated tinct. opium......................fl. ʒi
Syrup tolu, q. s., ad......................fl. ℥ii

M. Sig. Half a teaspoonful three times a day.—*Koplik: Med. News.*

℞. Phenocol hydrochlorate......................gr. xviii-xc
Sugar ....ʒi

M. Sig. Make twelve powders and give one three times a day.—*Kobert: Med. Record.*

Therapeutic Hints.

The following practical suggestions by William Murrell are worth repeating.

1. The value of small doses of tincture of aconite, frequently repeated, in the treatment of amygdalitis and in the initial stage of febrile diseases.

2. The value of painting the chest and back with liquor iodi fortis—diluted if necessary with an equal quantity of the tincture—in all cases attended with cough.

3. The value of a pill of exsiccated ferrous sulphate in conjunction with the administration of purgatives in the treatment of anemia.

4. The value of grain doses of gray powder with an equal quantity of Dover's powder, from three to six times a day, in the treatment of syphilis.

5. The value of large doses of the iodids in the treatment of tertiary syphilis.

6. The value of large doses of bromid of potassium in the treatment of the "heats and flushes" and other symptoms from which women suffer about the time of the menopause.

7. The value of large doses of quinin in the treatment of supraorbital neuralgia, in the periodical febrile disturbances from which old malarial patients suffer.

8. The value of five grains of butyl-chloral-hydrate with one two hundreths of a grain of gelsemin in neuralgia of the fifth nerve.

9. The value of small doses of perchlorid of mercury in the treatment of infantile diarrhea when the stools are green, slimy and offensive.

11. The value of sulphid of calcium, in doses of a tenth of a grain, in the treatment of boils, carbuncles and abscesses.

12. The value of nitroglycerin and nitrite of amyl in the treatment of angina pectoris and allied conditions.

13. The value of alcohol in the treatment of fevers.

14. The value of flying blisters in typhoidal conditions.

To the above important tips we would add the following:

1. The value of small doses of arsenic in paroxysmal coryza of children; Fowler's solution in doses of one or two drops on an empty stomach in vomiting of drunkards; of arsenic in gastralgia, chronic ulcer of the stomach, chronic scaly skin diseases, as a respiratory and circulatory stimulant for the aged, in dysmenorrhea frequently noticed in women with a tendency to asthma or subject to chronic diseases of the skin, in pulmonary phthisis characterized by excessive expectoration and a slow degenerative process, and in albuminuria dependent on imperfect digestion of albuminuous substances.

2. The value of a dose of castor-oil in allaying the colicky pains of an infant, although it may not produce a movement of the bowels. The value of the remedy as a galactagogue.

3. The value of potassium bichromate in doses of 1/100 grain every hour or two, in aphonia and hoarsenes due to excessive action of the vocal cords or resulting from an acute cold.

4. The value of potassium chlorate, one grain, and tincture of chlorid of iron, ten minims, every two hours in the treatment of ptyalism.

5. The value of hypodermic injections of a solution of camphor in ether as a rapid and powerful heart stimulant.

6. The value of oil of eucalyptus as a gastro-intestinal and genito-urinary antiseptic.

7. The value of small doses of corrosive chlorid of mercury (1/100 grain or less in marasmus); of small doses (1/60 to 1/40 grain) in chronic diarrhea.

8. The value of sipping water as hot as can be swallowed to stimulate the heart.

9. The value of opium in cardiac asthma, as a vasodilator, given in conjunction with digitalis in senile hearts.

10. The value of 3 to 5 per cent. solution of acetic acid as a disinfectant and antiseptic in obstetric practice.

Pruritis of Scrotum.

℞. Hydrarg. bichlorid......................gr. vii
Alcohol
Aquæ chamomil, āā......................ʒvi
Chloroformi ....gtt. v
Aquæ camphoræ, q. s. ad......................℥iii
M. Sig. Apply as a lotion.

—*Lestikoff.*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Journal of the Medical Sciences, November.

1. *Paralysis Agitans and Sarcoma. Charles L. Dana.

2.—*Study of Case of Family Periodic Paralysis. John K. Mitchell.

3.—*Kraurosis Vulvæ. J. M. Baldy and H. L. Williams.

4.—*Immediate and Remote Effects of Athletics on Heart and Circulation. Alfred Stengel.

5.—*A Short Umbilical Cord as a Cause of Dystocia. Samuel M. Brickner.

6.—*Experimental Study of Absorption of Strychnin in Different Sections of Alimentary Canal of Dogs. S. J. Meltzer.

7.— Critical Summary of Literature of Splenic Pseudoleukemia (Anemia Splenica; Spleno-Megalia Primitive). Bertram W. Sippy.

Annals of Gynecology and Obstetrics, October.

8.—*Edema and Elephantiasis of External Genitalia, following Removal of Inguinal Glands. C. A. Hamann.

9.—*Puerperal Eclampsia: Study of Seventeen Cases in Country Practice. J. F. Ford.

10.— Obstructed Nasal Respiration, Including Adenoid Vegetations. Geo. H. Leland.

Pennsylvania Medical Journal (Pittsburg), October.

11.— Medical Achievements of Present Century: Retiring Presidential Address. J. Warren Roop.

12.— Chronic Renal Disease: Etiology and Pathology. E. G. Matson. Prognosis and Treatment. H. A. Hare.

13.— Defects of our Present Methods of Teaching Anatomy in our Medical Schools. Edmund W. Holmes.

14.— Specific Treatment for Typhoid Fever. C. D. Miller.

Occidental Medical Times (San Francisco), October.

15.— Commercialism in Medicine. R. F. Rooney.

16.— Two Cases of Spontaneous Rupture of the Heart with Demonstrations of Specimens. A. W. Hoisholt.

17.— Rachitis. George L. Eaton.

American Medical Quarterly (N. Y.), September.

18.—*Functional Cardiac Murmurs. A. Jacobi.

19.— Appendicitis: Its Surgical Treatment. Joseph Price.

20.—*Cystoid Disease of Testicle: Teratoma Testis (?). F. R. Sturgis.

21.—*Does Sepsis Play a Prominent Causative Rôle in the Production of Puerperal Insanity? Edward N. Brush.

22.—*Heart Disease from an Obstetrical Point of View. Adam H. Wright.

23.— Experiences in Intestinal Surgery. Matthew D. Mann.

24.—*Hygiene of Bedroom and Bedstead. Lawson Tait.

25.— Newspaper Medicine. Nelson W. Wilson.

New York Lancet, October.

26.— Management of Difficult Breech Labors. Adam H. Wright.

27.— Hypodermic Injection of Quinin in Malaria. W. Young.

28.— Diet of Typhoid Fever and the Typhoid State. W. H. Dickinson.

29.— Intestinal Obstruction. R. C. Elsworth.

30.— Treatment of Abdominal Palpitations. Willoughby Wade.

31.— Treatment of Coryza. William E. Burton.

32.— The Surgical Sequelæ of Influenza. J. Warrington Howard.

33.— Parturition Complicated by Fibroids of Uterus; Postpartum Hemorrhage; Infusion; Recovery. A. J. Helm Montague and C. B. Moss Blundell.

34.— Note on Etiology of Rickets. Chas. Elgood.

35.— Convulsions in Infancy. A. M. Gossage and J. A. Coutts.

Obstetrics (N. Y.), October.

36.— Pelvic Abscess and Pyosalpinx after Abortion. William H. Wathen.

37.—*Observations on Management of Normal Labor. George P. Shears.

38.— Physical Diagnosis in Obstetrics. E. A. Ayers.

Woman's Medical Journal (Toledo, Ohio), October.

39.— The Woman Physician: Her Future. Frederick Peterson.

40.— Obstetrics in Burma. Marie M. Cote.

41.— Fistula in Ano; Report of Three Cases. Mary E. Bates.

Northwestern Lancet (St. Paul, Minn.), October 15.

42.—*Urea: Its Clinical Importance. D. Edmund Smith.

43.— Some Inflammatory Diseases of Bones, with Report of Cases. A. E. Benjamin.

44.—*Tale of a Worm and How to Kill It. George R. Patton.

45.— Carcinoma of Large Intestines. E. D. Keyes.

46.— Traumatic Endocarditis. C. H. Hunter.

47.— Discussion of the Walcher Posture. R. E. Cutts.

Canadian Journal of Medicine and Surgery, November.

48.—*Massage and the Relief of Eye-Strain in the Treatment of Glaucoma. George M. Gould.

49.—*Tuberculosis and Insurance. John Hunter.

50.—*Floating Kidney Simulating Diseases of the Genital Organs in Women. A. Lapthorn Smith.

51.—*Observations on Relation of Uterus to Thyroid Gland. Charles R. Dickson.

52.— Antinosin in the Treatment of Chronic Ulcers of the Leg. A. J. Harrington.

Kansas City Medical Record, October.

58.— Are Subjected Symptoms Properly Interpreted? C. A. Dannaker.

54.— Septic Peritonitis. Andrew L. Fulton.

55.— Pathology and Treatment of Locomotor Ataxia. W. F. Kuhn.

Journal of Alumni Association of College of Physicians and Surgeons (Baltimore), October.

56.—*Use and Abuse of Nitrate of Silver in Treatment of Ophthalmia of New-Born. Harry Friedenwald.

57. High Amputation of Cervix and Vaginal Suture Preliminary to Abdominal Hysterectomy, with Report of Case. W. Wayne Babcock.

58.— Mechanism of Axis-Traction Forceps. William S. Gardner.

59.— Baltimore as a Center of Post-Graduate Medical Study. T. J. Murphy.

60.— Treatment of Syphilis by General Practitioner. Harvey P. Jack.

Philadelphia Monthly Medical Journal, October.

61.—*Presidential Address at Thirty-second Annual Meeting of Canadian Medical Association, Toronto, August 30, 1899. Irving H. Cameron.

62.— Typhoid Infection without Lesions in Intestines: Case with Remarks. A. McPhedran.

63.—*How to Deal with Consumptive Poor. E. J. Barrick.

64.—*"Christian Science." J. H. Richardson.

65.—*Massage and Relief of Eyestrain in Treatment of Glaucoma. George M. Gould.

66.—*Experience in Formaldehyde Disinfection. F. Montizambert.

67.—*Complications and Treatment of Fracture of Base of the Skull. J. M. Elder.

68.—*Recurrent Paralysis of Oculomotor Nerve. J. W. Stirling.

69.—*Observations on Adenoids and Enlarged Tonsils and their Removal. D. J. Gibb-Wishart.

70.—*Case of Subcutaneous Emphysema. Frederick Fenton.

71.—*Report of Case of Penetrated Gunshot Wound of Abdomen with Lesions of Intestines Successfully Treated by Immediate Operation. Norman E McKay.

72.—*Case of Diffuse Hypertrophy of Breasts. James Bell.

73.— Pneumothorax from Gas-Producing Bacteria. F. G. Finley.

74.—*Results already Achieved at the Muskoka Cottage Sanatorium. J. H. Elliott.

75.—*Observations on Relation of Uterus to Thyroid Gland. Charles R. Dickson.

76.— When is Justifiable Abortion Indicated? Clarence E. Ide.

77.— Home Treatment of Phthisis by Hygienic or Open-Air Method. Albert Abrams.

78.— Clinical Observations on Traumatic Cataract. J. H. Woodward.

Peoria Medical Journal, October.

79.— Chronic Catarrhal Infections of Upper Air-Passages. Chas. H. Brobst.

80.— Surgical Experiences with Report of Cases. G. E. Luster.

Alabama Medical and Surgical Age (Birmingham), October.

81.— Treatment of Urethral Stricture. W. M. Jordan.

82.— Whooping-Cough with Cerebral Hemorrhage. J. C. Abernathy.

83.— Puerperal Septicema. W. H. Williams.

Toledo Medical and Surgical Reporter, November.

84.— Pancreatic Cysts with Report of Case. Julius H. Jacobson.

85.— The Bicycle as a Hygienic and Therapeutic Factor. H. E. Smead.

86.— The Chlorotic Condition and How Best Corrected. J. D. Ely.

Inter-State Medical Journal (St. Louis, Mo.), October.

87.—*Some Points in Practical Abdominal Surgery. A. C. Bernays.

88.— Nephrolithiasis. A. H. Cordier.

89.— Functional Constipation and its Treatment. A. J. Jenkins.

90.— Quick Method to Cure a Cold in the Head. A. S. Barnes.

91.— Intestinal Antiseptics. Burney Yoe.

Southern California Practitioner (Los Angeles), October.

92.— When Should the Eye be Enucleated for the Prevention or Cure of Sympathetic Ophthalmia. B. F. Church.

93.— Alimentary Hygiene. Frank Gordon.

94.— Some Features of the Bad Nauheim Treatment. W. Jarvis Barlow.

95.— Carbolic Acid Poisoning. Treatment. W. H. Mitchell.

96. —Diet in Typhoid Fever. Fred C. Shurtleff.

97.— In the San Jacinto Mountains. Walter Lindley.

American Journal of Surgery and Gynecology (St. Louis, Mo.), October.

98.—*Hernia Following Abdominal Operations. Prevention and Cure. A. Lapthorn Smith.

99.—*Observations on Relation of Uterus to Thyroid Gland. Charles R. Dickson.

100.—*Surgery Among the Insane: Its Difficulties; Its Advantages; Its Results. A. T. Hobbs.

101.— Mania and Melancholia Due to Pelvic Trouble. T. K. Holmes.

102.— Kraurosis Vulvæ with Notes on Three Cases. H. Meek.

103.— Some Cases of Obstruction of the Bowel. James Perrigo.

104.— Drug Habit Following Surgical Operations. C. E. Patterson.

105.— The Soldier and Surgeon. Col. G. Ryerson.

Kingston Medical Quarterly (Ont.), October.

106.— The Late Mr. Lawson Tait. R. W. Garrett.

107.— President's Address, Kingston Medical and Surgical Society. John Herald.

108.— Imperforate Hymen. C. B. Dyde.

109.— Distribution of Anthrax in Ontario. W. T. Connell.

110.— Notes on the Use of Normal Salt Solution. I. Wood.

111.— Indigestion. G. W. Mylks.

112.—*Traumatic Rupture of Bile-Duct. R. W. Garrett.

Cleveland Medical Journal, October.

113.—*Rational Treatment of Catarrhal Conditions with the Sinusoidal and Other Electric Currents. W. F. Brokaw.

114.—*Operative Treatment of Varicose Ulcers, and a new Local Application for Inoperable Cases. F. E. Bunts.

115.—*Acute Dilation of Stomach. Charles F. Hoover.

116.— Case of Ectopic Gestation. Charles H. Tanner.

117.—*Case of Pyelitis with Renal Calculi Complicating Pregnancy: Pain and Tenderness on Side Opposite the Main Lesion. L. B. Tuckerman.

Medical Fortnightly (St. Louis, Mo.), October 16.

118.— Aortitis and Angina Pectoris. Dr. Lancereaux.

119.— The State vs. the Child. M. V. Ball.

120.— Physiology: Ductless Gland, Spleen. A. L. Benedict.

121.— Scattered Leaves from a Physician's Diary, No. 10: Two Days in Spain. Albert Abrams.

North Carolina Medical Journal (Charlotte), October 20.

22.—*New Method of Inflating the Middle Ear. Lucien Lofton.
23.—*Old Age and Modifications in the Course of. M. E. Nuckols.

Medical Age (Detroit, Mich.), October 25.

24.—*Pneumonia in Infants, Diagnosis and Treatment. W. P. Northrup.
25.— Laryngologic X-Ray Work. Wadsworth Warren.

Columbus Medical Journal, October 5.

26.—Excessive Myopia: Its Causes and Treatment with Report of Case. Andrew Timberman.
27.— Etiology and Diagnosis of Typhoid Fever. D. N. Kinsman.
28.— Cerebrospinal Meningitis. Henry Baldwin.
29.— The Average Man's Stomach. Charles H. Merz.

Medical News (N. Y.), November 4.

30.—*Mountain Fever. E. Stuver.
31.—*Yellow Fever as a Scourge in the United States. G. Heustis Fondé.
32.—*Congenital Tumors of the Fingers. Charles E. Fairman.
33.— Tubal Pregnancy and Dermoid Cysts; Report of Case. I. B. Perkins.

Medical Record (N. Y.), November 4.

34.—*Fourth Hitherto Undescribed Disease of Ovary; Colloid Degeneration. Mary A. Dixon Jones.
35.—*Congenital Hernia of Umbilical Cord. W. B. Coley.
36.—*Headaches Due to Eye Strain. James Cole Hancock.
37.— Lip-Reading: An Aid for the Incurable Deaf. Mrs. Cora D. Gorton.
38.— Antiseptic Gauze. G. W. Tyrrell.
39.— Volvulus of Cecum. G. H. Coombs.

Boston Medical and Surgical Journal, November 2.

40.—*Acute Abdominal Symptoms Demanding Immediate Surgical Intervention. Maurice H. Richardson.
41.—*Carcinoma Under Age of Thirty. Charles Greene Cumston.
42.— Case of Adenocarcinoma of Body of Uterus, Simulating Submucous Fibromyoma. W. L. Burrage.
43.— Case of Tetany. Franklin Warren White.
44.— Case of Gastric Tetany. Ralph C. Larrabee.
45.— Case of Ataxic Paraplegia Developing Under Circumstances of Unusual Interest. J. W. Courtney.

Maryland Medical Journal (Baltimore), November 4.

46.— The Milkman's War. John S. Fulton.
47.—*Mercurial Poisoning and Amalgam Fillings: a Medical View; the Dental Aspect. Richard Grady.

Medical Review (St. Louis, Mo.), November 4.

48.— Plea for Treatment of Typhoid Fever by Cold Baths. Charles Shattinger.

New York Medical Journal, November 4.

49.—*How to Preserve as Permanent Specimens Casts Found in Urine. L. Napoleon Boston.
50.—*Medical History of Sir Walter Scott. Roberts Bartholow.
51.—*Pathology and Therapy of Cancer, with Special Reference to Cancer of Stomach. Augustus C. Bernays.
52.—*Home Modification of Cows' Milk for Infant Feeding. Henry Dwight Chapin.
53.— Notes on Urethral Catheterism, Catheters, and Bougies. J. W. S. Gouley.
54.— The Sheldon Murder Trial. A Review of the Medical Evidence Relating to Pistol-shot Wounds of the Head. Charles Phelps.
55.—*Diagnosis of Typhoid Fever. A Discussion at the New York State Medical Association, Oct. 25, 1899. William Osler.

Cincinnati Lancet-Clinic, November 4.

56.— Correction of Refraction in Myopia. Charles A. Lester.
57.— Acute Tonsillitis, etc.; Treatment and Prophylaxis. W. L. Bullard.

AMERICAN.

1. **Paralysis Agitans and Sarcoma.**—Dana reports a case ery completely in which paralysis agitans existed in connecon with sarcoma, and reports examination of the spinal cord here there was found atrophy, some increase of connective ssue and various local degenerations. He reviews the pathogy and pathogeny of paralysis agitans, rejecting the view that is simply a premature senility and maintaining that it is in ll probability due to some poison that has so affected the erve-cells at some prior period of life that when degenerative hanges begin to take place these less viable structures suffer. Vithout attempting to state what the primary infection may e, he suggests that it may be some autochthonous poison like hat of rheumatism, which is one of the most frequent antecednts of the disorder.

2.—See abstract in Journal, May 6, p. 1013.

3. **Kraurosis Vulvae.**—A case of this rare condition is here eported by Baldy and Williams, in which operation for the emoval of the diseased parts was attended with a considerable egree of success. After a careful review of the literature, and horough microscopic studies of the case, they assign to it an nflammatory origin, holding closely to the theory of Veit and Iartin. While it is possible that there may be a primary rophic disturbance, they think this purely theoretic and withut supporting evidence. The cause, they believe, is a local ne, and the pruritus which is so constant in its beginning can ot be ignored in its etiology. They recognize, however, that there must be some unknown factor either constitutional or local.

4.—See abstract in Journal, May 6, p. 1013.

5. **Dystocia from Short Cord.**—The dangers of a short umbilical cord in delivery are, Brickner states: rupture at any point along its course, detachment of the placenta, inversion of the uterus, or, as has not been clearly pointed out, umbilical hernia in the child. The first two accidents are more common, the last two rare. Much depends on the position of the placenta, and a central or marginal insertion of the cord must be taken into consideration in estimating its actual length. The tensile strength and elasticity of the cord, according to Duncan and Lamare, are not sufficient to prevent its rupture under a tension of eight or nine pounds, and its length for safety must be at least, according to Brickner's calculation, ten inches. The diagnosis of the condition is based on the following symptoms: 1, recession of the head in the intervals of pains; 2, arterial bleeding during and between uterine contractions; 3, urination in small quantities in the intervals of pain, after the establishment of the second stage; 4, pain over the placental site, especially during the uterine contraction or during the application of forceps; 5, desire of the patient to sit up; 6, uterine inertia. The third of these symptoms is a new one first mentioned here, and was quite striking in the case reported in the paper. The treatment is dependent on the early diagnosis. By pressing down the fetus, the placental insertion of the cord is brought near the umbilical insertion, but this is not always feasible. Postural methods may be tried, and in breech presentation the cord may be tied as soon as the umbilicus is born. The use of forceps is clearly contraindicated.

6. **Strychnin.**—The studies of Meltzer on dogs seem to show that the absorbent power of the stomach is less for strychnin than that of any other part of the alimentary canal, that of the esophagus a little better. The absorption of the intestines seems to be about equal throughout, but the isolated rectum is shown to absorb at least as well as the small intestines, if not better.

8. **Elephantiasis of Labia.**—Hamann reports a case of femoral hernia operated on, during which operation the fat and some small saphenous lymph glands were also removed. The recovery was uneventful, but a few weeks afterward there was a painful swelling of the right labium majus, which subsided under treatment but has recurred a number of times since, leaving slight enlargement of the parts. He attributes the condition, which as a sequel to operation for femoral hernia was before unknown to him, to the removal of the glands and the fat tissue, causing interference with the lymph circulation. He explains his theory of the condition at length, with reference also to other observations parallel but not identical with his own.

9. **Puerperal Eclampsia.**—Cases in country practice were studied by Ford and the treatment of the condition is discussed. He finds chlorid of gold and sodium a most valuable remedy in this condition.

18. **Functional Cardiac Murmurs.**—After a general discussion of the subject, Jacobi offers the following conclusions as self-evident: 1. The diagnosis of deranged function in any organ is only a makeshift, and justifiable only as long as we are ignorant of the physical cause of that derangement. "Functional" is called the heart murmur, the anatomic cause of which we do not know. That is why a skilled diagnostician may recognize fewer functional murmurs than one who will not diagnose a heart disease unless we have all the symptoms, including dilation and hypertrophy. 2. The same disorders of the blood and nervous system in which heart murmurs are observed in the adult, do not cause them in the small infant. In the latter the heart is larger, more robust, and more powerful, and its contractions are more uniform and effective; its two ventricles are equally muscular, or nearly so, and the valves are smaller. Thus the greater frequency of murmurs in the adult is attributable to the physical condition of his heart, and should not be explained by a deranged function. 3. Even in the present limitation of our knowledge we should agree to call only those murmurs functional which are temporary, or intermittent, or variable in their character. They are met with in the neurotic and neurasthenic, in the (adult) anemic, some times in syncope or in chorea minor, and occasionally in rheu-

matism. Even here they should be recognized either as myocardial or as neurotic.

20. **Teratoma Testis.**—After reporting a case in detail, Sturgis reviews the general subject of cystoid disease of the testicle, and tabulates the histories of forty cases which he has collected from the English, German, French and Italian literature. About half of the cases apparently started from injury. In fifteen there was no apparent cause. Pain was present in about half of the cases, and the left gland was affected in the majority. The condition of the different portions of the organ are also noted, but do not seem with the number given to afford very definite results. The testicular substance was generally present, the tunics normal in most, which was also the case with the spermatic cord. The epididymis was normal in about half of the cases reported. Complications existed in a small minority, such as abdominal tumors, inguinal abscesses, syphilis, indurated glands, etc. Of twenty cases in which the results were reported, in thirteen death ensued from exhaustion, septicemia, cancer, etc. The disorder seems to occur mostly in early adult life, and is of rapid growth. He thinks that pain, though not always reported, is generally present in some stage. The diagnosis is sometimes difficult and mistakes are always possible. The course is progressive and the prognosis uncertain. The treatment is purely surgical.

21. **Puerperal Insanity.**—The two great elements in the causation of all cases of insanity are, without question, heredity and sepsis, and the latter element is especially prominent in the puerperal cases. Brush thinks too little attention has been given to this fact hitherto.

22. **Heart Disease from an Obstetric Point of View.**—The question as to whether heart disease should be an obstacle to marriage, especially its forms, and how pregnancy affects the system in such cases, are here treated by Wright, who sums up his views as follows: 1. Any woman having a heart lesion which is compensated should not be prevented from marrying. 2. Abortion should not be induced on a woman with heart disease unless very serious symptoms are present. 3. Premature labor should seldom or never be induced on account of heart disease. 4. Mitral stenosis is the most serious heart lesion during pregnancy and labor, aortic stenosis next, then probably aortic incompetency; mitral insufficiency is the least serious. 5. Treatment during pregnancy. Administer the following according to indications: strychnin, digitalis or strophanthus, cathartics, nitrate of amyl, nitroglycerin, and regulate the diet. 6. Treatment during labor: Keep up the action of digitalis or strophanthus, especially during the first stage. Give strychnin and stimulants if required, and chloroform. As soon as the first stage is completed deliver with the forceps. 7. Watch the patient carefully during the third stage, the most dangerous time, and for some days after.

24.—See abstract in Journal, July 8, ¶ 46, p. 94.

37. **Management of Normal Labor.**—The points here made by Shears are: the avoidance of too frequent and unnecessary examinations and routine rupture of the membranes, the needlessness of the Credé method of expression of the placenta in the majority of cases, needless dread of clots, the necessity of macroscopic cleanliness, and avoidance of complete reliance on chemical disinfectants, etc. He also thinks that the importance of perineal lacerations of the first degree is much exaggerated, and that primary perineorraphy has had too little attention given it as a factor in the production of infection. He thinks that the day of the use of douches is past, excepting in suspicious cases, and the tea and toast diet is going, as is also the ten days recumbency. The puerperium, while still defined as a period of unstable equilibrium, is still sufficiently stable to get along with less interference. He does not wish to say that these cases should be left not merely to Nature, but also to ignorance, but that normal cases should be watched more than meddled with by a competent scientific practitioner.

42. **Importance of Urea.**—The importance of urea and a knowledge of its quantitative elimination is dwelt on by Smith, who lays down the following general rules as regards the use of this determination in the prevention of eclampsia. He makes the statement that in about 5 per cent. of the cases of pregnancy, albumin may be found, "gradually increasing to 71 per cent. (?) during the last four weeks. It is of little pathologic importance, however, he says, unless we have a decreasing percentage of urea accompanying an increasing amount of albumin. If the percentage of urea is below .9 per cent., and the urine in twenty-four hours less than 20 ounces and contains albumin with casts, and evidences of toxemia are present, such as headache, nervousness and blind spots, the radical measure of emptying the uterus should be resorted to at once to save both mother and child. When the urea is above 1.4 per cent., the patient can be safely carried to full time, even with albumin and casts. The diet of cases with defective elimination is of the utmost importance. Milk is the ideal food where it can be taken. Preparations of fine flour, butcher's meat and tea and coffee should be restricted. He thinks that tonics, like arsenic, iron, etc., are useful, and when eclampsia is threatened, pilocarpin is a valuable adjunct, though not safe in routine practice. Calomel in 20-grain doses is beneficial both in its diuretic and cathartic action. Other measures—hot packs, etc.—are recommended, but we can not give them in detail.

44. **Tapeworm.**—The chief point in Patton's paper is the use of the old domestic remedy, pumpkin seed tea, for tapeworm. His formula is: Decorticate carefully by hand, two heaping quarts of dry, plump and mature seeds. The kernels, which should measure a trifle over one pint, to be made into a perfectly smooth and homogeneous emulsion with water only. As a test of perfection, not a single particle of kernels should be observable to unaided vision. It should be just like fresh cream. The emulsion, when ready for use should measure three pints, and be kept on ice from the time of its making until the last dose is taken. He gives the emulsion in 8-ounce doses every three or four hours, giving no food and having prepared the patient beforehand by a cathartic.

48.—See abstract in Journal, September 2, p. 622. The same title appears below; see ¶ 65.

49.—See abstract in Journal, September 9, p. 669.

50.—See Journal, November 4, p. 1149.

51.—See abstract below, ¶ 75, p. 1217. For the same article see also title 99, below.

56.—See abstract in Journal, October 7, ¶ 158, p. 907.

61.—See abstract in Journal, September 2, p. 621.

63.—Ibid, p. 622.

64.—Ibid, p. 621.

65.—Ibid, p. 622; for same article see title 48, above.

66.—Ibid, p. 621.

67. **Basial Fractures.**—Elder reviews the general plan of treatment adopted, and calls attention to the important complications that may arise, hemorrhage being the first of these, and especially prone to occur if the fracture involves the posterior fossa of the skull, or it may result from the fracture involving some of the arteries entering the base of the skull. The treatment is always to be directed to the control of this. Sepsis is most enticingly invited in fractures that open into any of the cranial canals communicating with the air; such cavities are to be rendered aseptic, and packed with a pledget of antiseptic dressing. The external auditory canals should receive this treatment, whether or not blood is detected issuing from them. Cleanse the nose and nasopharynx, then the nostrils should be tamponed with aseptic cotton wool.

68. **Recurrent Paralysis of Third Cranial Nerve.**—This comparatively rare condition is reported as observed in a child of 14 years. The patient had for years been subject to attacks of hemicrania; more recently they had been accompanied by diplopia and ptosis of the left eyelid. The present attack was ushered in by severe (left) hemicrania, vomiting, double vision and ptosis affecting the left eyelid. Examination disclosed an undoubted paralysis of the left third nerve in all its branches, excepting that to the papillary sphincter, the eyeball was divergent in position. Vision of the right eye was practically negative, while the left showed 5/9; a dilated, sluggish pupil; accommodation *nil;* the fundi normal. Within the following three months the paralysis disappeared, but the accommodative and papillary symptoms remain unchanged.

69.—See abstract in Journal, September 9, p. 668.

70.—Ibid, September 2, p. 622.

71. **Lesions of Intestines.**—A bullet entered the abdomen, three inches to the right and on a level with the umbilicus, taking an anteroposterior course; four intestinal perforations were made, two wounds in the colon, one of inlet, the other of

outlet, and two like perforations in a loop of intestine that happened to be directly in the bullet's course. The wounds were closed by Lembert's suture, the intestinal loops cleansed with a weak bichlorid solution, the peritoneal cavity flushed with salt solution, and drainage established. Recovery was complete.

72. **Hypertrophy of Breasts.**—Bell's case presented both breasts very large, uniform, painless and moderately pendulous, the hypertrophy progressed to such an extent that ulceration of the integument had set in. The glands, when removed, weighed respectively 6½ and 5 pounds, and the skin was very much thinned. From an examination of the tissue it was concluded that "it was not pure hypertrophy of the gland tissue, though that must be present, but essentially . . . an orderly hyperplasia of the fibrous tissues." The abundant connective tissues between the alveoli was too perfectly formed to allow the condition to be considered simply fibromatous. The condition more nearly resembled what he terms a keloid overgrowth of the connective tissue.

74.—See abstract in JOURNAL, September 2, p. 621.

75. **Relationship Between Uterus and Thyroid Gland.**—Dickson's observations are based on some 200 cases, and from them he concludes that diseases of the thyroid are much more common among women than men—6.55 to 1. A direct sympathetic relationship, if nothing more, exists between the thyroid and the uterus and manifests itself in many ways. Thus, before the establishment of the function of menstruation the thyroid is often enlarged. This enlargement frequently is reduced on the establishment of the menses, and in those cases in which the gland is not reduced, it is observed that some thyroid engorgement is present before each menstrual period, diminishing as the flow is established. Goiter occurring after puberty is frequently associated with amenorrhea. When a woman with an enlarged thyroid becomes pregnant the gland increases in size with each pregnancy receding shortly after parturition. At other times pregnancy is directly responsible for goiter, it making its first appearance early after impregnation. The three periods in life during which the thyroid has been found most refractory to treatment are: before puberty, during pregnancy, and after the menopause. (The same article appears elsewhere; see title 51, above, and 99 below.)

87. **Abdominal Surgery.**—Bernays shows that with the absence of bacteria surgery is comparatively simple and safe, and cites cases to show this. As regards operative cleanliness, too much is as bad as too little that is to say, brushing and scrubbing brings bacteria to the surface that might otherwise be harmless in the deeper layers of the skin. The best method of cleaning the hands is thorough use of alkaline soap for eight or ten minutes. The next important thing is to have had experience, and the only way to master the principles of surgery is to have seen them in practice. Book knowledge alone can never meet the requirements. The diagnosis in abdominal surgery is always uncertain and may only be obtained sometimes by the operation. He remarks that abdominal surgery is the easiest of all kinds of surgery, and that is the reason why there are so many abdominal surgeons at the present time who will not perform even the simplest operations in other parts of the body. The details of operative methods are given and the possibility in apparently hopeless cases, what he calls opiated cases, of appendicitis are discussed. He thinks that if opium were taken away from the general practitioner and epsom salts substituted, 80 per cent. of these hopeless cases would not occur. He recommends that each town and village support an operating-room and a few sick-rooms for emergency cases, and he has tried to show that the great complications and refinements of modern surgery, while not always attainable are also not always necessary.

98. **Hernia Following Abdominal Operations.**—Smith considers hernia a frequent complication of abdominal section, but a preventable one. It can be avoided by leaving the stitches for one month if the patient is thin enough to permit through-and-through sutures, or by using non-absorbable buried ligatures where two layers of sutures are required. He prepares his silkworm gut by putting it into sealed glass tubes and boiling it. A cut with a file is made, and when it is required for use the tube is snapped across. It can also be hindered by discarding the abdominal drainage-tube, and when drainage is necessary, which is rarely the case, draining by the vagina; also by securing accurate coaptation of the cut edges by marking the places where the stitches are to go before the incision is made, and by taking care that no peritoneum is curved up so as to come between the fascia and muscle. It is easily cured in small cases by a single silkworm gut purse-string suture, and in the larger cases by splitting the edges of the ring until the recti muscles are exposed from top to bottom and suturing them with buried silkworm gut. Patients with buried silkworm gut stitches do not need to stay in bed for more than two weeks, and in some cases less, and do not need an abdominal belt. Those with through-and-through silkworm gut stitches left in for a month can in cases of necessity go home in twelve to fifteen days, and return at the end of four weeks to have their stitches removed. They do not need to wear a support until the stitches are removed, and even then it is much less necessary than in those cases where they have been removed earlier.

99.—This paper appears elsewhere also: see above, titles 50 and 75.

100.—See abstract in JOURNAL, September 9, p. 670.

112. **Traumatic Rupture of Bile-Duct.**—Garrett reports a case of traumatic rupture of bile-ducts in a young man aged 21, in which eleven days after the injury tapping was done and a large amount of bile let out, and this was repeated again four days later and five days later a laparotomy was performed showing a rent in the common duct between the layers of the lesser omentum. A funnel-shaped tract down to the part was walled off and a large drainage-tube inserted. After the operation the discharge was profuse, but gradually diminished and perfect recovery followed. The author discusses the literature of the subject, believing his case of sufficient rarity to be of interest.

113. **Electricity for Catarrhal Affections.**—Nasopharyngeal catarrh has been treated for some time by Brokaw with electricity, more especially the sinusoidal application, preceded, to get the best effect, by the galvanic current. He has had excellent results in this condition, with currents that were not unpleasant, regulated by the milliamperemeter, and also in cases even of decided stenosis and of adenoids. He has not had to use the septum punch and forceps and the nasal saw for the last two years. One point needing emphasis is the avoidance of intranasal irritation by too strong currents. Hypertrophic and atrophic rhinitis are alike amenable to this treatment. He will admit failures in some cases, but believes that on the whole the treatment is a very marked advance.

114. See abstract in JOURNAL, November 4, p. 1169.

115. Ibid, September 23, p. 795.

117. Ibid, p. 796.

122. **Inflation of Middle Ear.**—Lofton here describes the method of auto-inflation of the middle ear devised by him. The instrument consists of one of the newer forms of stethoscopes with the chest receiver detached and a hard rubber, flattened mouthpiece substituted. The latter is held firmly between the patient's lips, while the ear apparatus is adjusted to his ears. All that is required to inflate the cavity is simple suction on the part of the patient, rapidly executed. The force thus generated causes the adherent drum to vibrate or to swing to and fro. If only one ear is desired to be inflated, pressure on the opposite tube will confine the action to it.

123.—This paper appeared elsewhere: see JOURNAL, November 4, title 1071, p. 1155; abstract, October 21, ¶ 153, p. 1036.

124. **Pneumonia in Infants.**—The best signs of obscure beginning pneumonia in infants under 2 years are, according to Northrup: 1. Disturbance of pulse—respiration and ratio, so that it departs from the normal of 4 to 1 and approximates 3 to 1. 2. Fever, continuous, intermittent or remittent. 3. Râles, fine. His treatment is: 1, fresh air; 2, avoiding indigestion and flatulence; 3, baths or packs. Poultices, for pain only, should be used intermittingly, heart stimulants,—strychnin, nitroglycerin, alcohol, digitalis—when needed. Antipyretics—coal-tar products—are mentioned only to condemn them absolutely.

130. **Mountain Fever.**—The mountain fever of the Rocky mountain region is here shown by Stuver to closely correspond in all respects and be identical with typhoid fever, the variations being comparatively unimportant. He believes in an antiseptic and eliminative treatment. During the first

two or three days he gives .5 gr. each of calomel and sodium bicarbonate hourly until free catharsis is induced. He keeps up the action of the bowels by further eliminative treatment in the succeeding days. The cold bath is recommended, but the difficulties of giving it in private practice are often insuperable, and he recommends, as a satisfactory substitute and free from its inconveniences and dangers, the intrarectal injection of cold normal salt solution, which is, he thinks, original with himself. He has found this of great benefit in many severe cases. As a heart tonic he relies principally on strychnin. The diet is restricted to milk, buttermilk and other liquid nourishment.

131 **Yellow Fever.**—Fondé's paper calls attention to the success in recent years in dealing with yellow fever, and the comparative mildness of the epidemics when they have occurred, which he attributes to the sanitary measures. He believes that thorough disinfection, isolation and quarantine not only can check an epidemic but can stamp it out, as illustrated by the Hampton, Va., epidemic.

132. **Congenital Tumors of the Fingers.**—Two cases of superficial dermoids occurring at birth are reported by Fairman, and the general subject of digital tumors is discussed.

134. **Colloid Degeneration of Ovary.**—Jones describes what she calls the fourth hitherto undescribed disease of the ovary, which appears in the form of colloid bodies scattered through the tissue, especially destroying the ova. Her article is illustrated with a number of cuts showing the condition and its effects. She maintains that in these cases the whole ovary should be extirpated, in fact, she objects to ever leaving any portion of the ovary in any case of operation. She says: "I have never yet seen an ovary of which I believed that part could be left with advantage to the patient. I rather believe that where part can be left none should be taken."

135. **Congenital Hernia of Umbilical Cord.**—Coley reports two cases of this condition in which the patient survived after operation.

136. **Headaches from Eye-Strain.**—Headaches from eyestrain are, according to the author, much more frequent than is generally supposed. The conditions bringing them about are, he believes, an undue stimulation of the nerve-centers of nerves supplying the intrinsic and extrinsic muscles of the eye, causing a reflex vasomotor action referred to the meninges and producing congestion. He thinks that the confusion of the image may be a contributing cause, but not the most important one.

140. **Abdominal Surgery.**—In concluding his article on the symptoms requiring immediate interference by abdominal surgery, in which he reviews a large number of conditions, Richardson says that these should not, as a rule, be interfered with surgically by inexperienced practitioners. No matter how simple the case may appear to be, possible complications can not be foreseen, and to meet these may require the very highest skill. It is the duty of him who observes symptoms suggesting acute and serious abdominal lesions to lose no time but to determine the probable nature of the lesions, suggest the proper remedy, and if the experience in operating is lacking, call to his aid the nearest one who has the experience.

141. **Carcinoma Under Age of Thirty.**—This paper gives a discussion of the literature of early carcinoma, and reports three cases occurring in patients of 28 years and under.

147. **Amalgam Fillings and Mercurial Poisoning.**—The communication of Grady was incited by a recent article read before a New York medical society on "Mercurial Neurosis Resulting from Amalgam Fillings," and the author finds, from his examination of the subject and the experience of other dentists, both clinical and experimental, that the indictment against amalgam fillings is not supported. He does not, therefore, believe that mercurial poisoning or other toxic effects are likely to occur from mercury in the amalgam.

149. **Preservation of Casts.**—Boston gives the following formula for the preservation on slides of urine casts for microscopic examination: Liquor acidi arseniosi (U. S. P.), 1 fl. ℥; salicylic acid, .5 gr.; glycerin, 2 fl. ʒ. Warm slightly until solution is effected, when add acacia (whole tears), and again warm until solution is saturated; after subsidence, decant clear supernatant liquid. A drop of formalin (40 per cent.) may be added to this mixture if desired. After the ordinary precautions of cleanliness in securing the urine, a bottle, previously cleaned, is partially filled, corked tightly and allowed to stand in a cool place until a precipitate collects. Decant off the urine, add an equal quantity of distilled water and allow it to stand until it collects again at the bottom. (If a few drops of chloroform are added the urine can be kept for days without any change in the casts.) The precipitate is lifted by means of a pipette and a small drop of the thickest of the sediment placed on the center of a slide and examined under a low power. If casts are present, evaporate nearly to dryness and add a drop of the above described formula by means of a glass rod to the center of the drop of urine, and as they do not mix carry a fine needle from the outer margin to the center until the two substances show no tendency to separate, avoiding also the formation of air bubbles. A cover-glass is then moistened by the breath and allowed to fall gently on the specimen, the slightest pressure being avoided, also heat. The slide is now put in a cool place for a few hours for hardening. The specimens thus prepared have shown every feature of the casts after a period of two years.

150. **Medical History of Sir Walter Scott.**—Bartholow discusses the physical pathologic peculiarities of Sir Walter Scott, concluding that he must have had acute infantile poliomyelitis, biliary calculi in middle life and rheumatism and atheromatous disease of the arteries with capillary hemorrhage or thrombus, producing apoplectic seizures in his later days. The autopsy, as is well known, showed softening of the corpus striatum as probably the cause of his death. The convivial habits, excessive mental labor and worry were the contributing factors that carried him off before his time.

151. See abstract in JOURNAL, August 12, ¶ 39, p. 405.

152. **Home Modification of Cow's Milk.**—The object of Chapin's paper, as stated, is to present a method of modifying cow's milk for infant food that will be scientific enough for the average case and easy to apply in all cases. He thinks that the principal dairies in large cities furnish a fairly uniform quality of cow's milk as regards its percentage of fat and proteids. The delivery of milk in bottles separates the cream so that several inches of the upper part in the neck of the bottle is pure cream, and he recommends a dipper which he illustrates, holding just one ounce, for the purpose of removing this. While it is not easy to test the proteids in milk, we are taught that they nearly equal the fat in the milk up to 4.5 per cent. fat. Avoiding small fractions, cream with 12 per cent. fat would have three times as much fat as proteids, that is, 12 to 4; 10 per cent. cream would have 2½ times as much fat as proteids; 8 per cent. would have twice as much and so on. Almost any desired percentage can thus be obtained by diluting these creams, and this "deep-setting" method of separating the cream, above mentioned, in the delivery in bottles, facilitates it. About 10 per cent. of the total fat is left in the skimmed milk, so we only get about nine-tenths of the theoretic quantity in the creamy layer. When it is desired to have fat three times the proteids, make a 12 per cent. fat cream by taking the first nine dippers of cream and milk from a quart bottle from which the cream has arisen, and mix. The result is 9 ounces of cream, about 12 per cent. fat, 4 per cent. proteids and 5 per cent. sugar. For any quantity of food containing fat three times the proteids use this formula with 12 per cent cream.

Dilution of twelve per cent. cream = twelve per cent. divided by desired percentage of fat.

Fluid ounces twelve per-cent. cream = desired fluid ounces food divided by dilution.

Sugar = desired fluid ounces food divided by twenty.

Diluent = desired fluid ounces food minus fluid ounces twelve-per-cent. cream.

Example.—Desired twenty-four fluid ounces food containing fat, three per cent.; proteids, one per cent.; sugar six per cent.

Twelve per cent. ÷ three per cent. = four dilutions.

Twenty-four ÷ four = six fluid ounces twelve-per-cent. cream.

Twenty-four ÷ twenty = one ounce and a fifth sugar.

Twenty-four — six = eighteen fluid ounces diluent.

When it is desired to have fat twice the proteids, take the first sixteen dippers full of milk and cream out of a quart bottle and mix, the result is 16 fluid ounces of cream, about 8 per cent. fat, 4 per cent. proteids and 5 per cent. sugar. Any amount of this, as in the former case, can be diluted according to the same general principles. He thinks that this method is sufficiently accurate in attaining average percentages applicable to the modification of cow's milk. What is needed in any given case is the dilution that will agree with the baby we are trying to feed. The physician can vary the strength of the milk by directing the number of ounces to be dipped out of the bottle of milk, and thus tentatively reach the strength that is suitable for the infant's digestion. Having obtained the desired percentage the next step is to get the cow's milk as nearly as possible in the same physical condition as human milk. The casein being greater in cow's milk, the best method of acting on it in the way of attenuating and modifying the clot is by properly diluting the milk with a decoction of cereals. The gruel may be dextrinized to more fully expose the proteids to the action of the gastric juice, by diastase. The decoction he himself prepares is made as follows: a tablespoonful of malted barley grains crushed, is put in a cup and enough cold water added to cover it, usually two tablespoonfuls. This is prepared in the evening and placed in the refrigerator over night. In the morning the water, looking like thin tea, is removed by a spoon or skimmed off, and is ready for use. About a tablespoonful can be thus obtained and is very active in diastase and sufficient to dextrinize a pint of gruel in ten or fifteen minutes.

155.—See abstract in JOURNAL, November 4, p. 1165.

FOREIGN.

British Medical Journal, October 21.

Rational Treatment of Syphilis. A. H. WARD.—The rational treatment of syphilis, according to Ward, is as follows: Mercury should be used alone in the primary and secondary stages in the absence of severe lesions, and treatment should be begun at the earliest possible moment. The drug should be given in a form easy to take and not irritating to the stomach, and should be pushed to the toleration point, as indicated by slight affection of the healthy gums. When this is reached it should be kept up at that point, but never increased or diminished. The course should continue for two years, that being the period of natural cure or real latency. Iodids should not be used in routine treatment in the primary and secondary stages, as by removing the toxins the phagocytes will be no longer attracted to the germ and encapsulation and destruction will be hindered. Iodids together with mercury should be used in increasing doses in the gummata stage, and a mild mercurial course is advisable later. In intractable cases with chronic blood poisoning and severe lesions, a large quantity of water taken daily aids the excretion of the toxins, and in the shape of Zittmann's decoction is undoubtedly very effective. The main point in the treatment of syphilis, according to Ward, is to push the mercury to the toleration point and keep it there throughout the course.

Method of Attaching the Mucous Membrane to the Skin After Perineal Excision of Rectum. LEONARD A. BIDWELL.—The method is as follows: After incision of the rectum by the ordinary racket-shaped incision around the anus, two transverse incisions, about two inches long, are made on each side of the original incision, about one inch apart; the flaps so formed are dissected up and attached by silkworm gut sutures to the cut edge of the rectum; in most cases this can be done without any tension, but should there be any, a longitudinal incision in the posterior surface of the rectum will enable the union to be effected. Finally the posterior part of the wound is lightly plugged. He claims that with this method, even if all the stitches do not hold, the amount of cicatricial contraction will be infinitely less, and the period of convalescence shorter than if the wound had simply healed by granulation in the ordinary way.

Enterorraphy Without Mechanical Aids. JAMES H. NICOLL.—The method of circular enterorraphy favored by Nicoll is that with Czerny-Lembert sutures, and he does not use the button in ordinary cases. In certain instances, however, where there is much congestive thickening of the intestinal coats and large fecal accumulations above the lesion, he prefers a method which in principle has been devised independently by Robinson, Harris of Chicago, and Skelly, as well as himself, and it consists in removing a ring of mucous membrane from the distal end into which the proximal is passed—with or without removal by roughening of its peritoneal coat—and there secured by suture either looped or continuous, the whole procedure being carried out without any mechanical support.

Lancet, October 21.

Acoin as Local Anesthetic in Subconjunctival Injections. ROBERT BRUDENELL CARTER.—Carter gives his experience with acoin, which he finds is a very valuable anesthetic and promises to facilitate the treatment of some of the more intractable inflammatory injections of the eye, and that it has the power to render the subconjunctival injection of cyanuret of mercury injected for the relief of corneal opacities, etc., painless. He thinks that it takes away the serious objections to the use of this method, which in properly selected cases appears to be of incontestable value.

Diphtheria Treated with Antidiphtheritic Serum. A. J. TONKIN.—From an analysis of 200 consecutive cases of diphtheria treated with antitoxin, the author thinks that the treatment reduces the general mortality rate, improves the prospects in laryngeal cases, lessens mortality of tracheotomy and does away with its necessity if early practiced; is the same for all ages and sexes, diminishes the chances of nephritis and albuminuria, lessens the chances of paralysis when used the first or second day; and reduces its mortality, and prevents the extension of the disease to the larynx from the fauces. The only disadvantages noted have been slight discomfort from urticarial rashes and pains in the joints in a small proportion of cases.

Influence of Fatigue on Structure of Nerve-Cells. GUIDO GUERRINI.—In order to study the physiologic effects of fatigue on the nerve-cells, which hitherto had only been done by Hodge, Guerrini exercised dogs in a special apparatus, and then killing them, sought for the alterations due to excessive work. The distance covered by the animals before producing signs of fatigue was measured and the alterations found in the nerve-cells were as follows: 1, an increase of the pericellular lymphatic space; 2, the presence of leucocytes on the cell in the pericellular lymphatic space; 3, disorder of the rete achromaticum; 4, decomposition of the pigment masses which were sometimes reduced to an accumulation of small fragments; 5, the presence of vacuoles in the protoplasmic mass; 6, irregularity of the margins of the nucleus, and 7, the presence of vacuoles in the nucleus. These modifications, although they may sometimes show themselves in the normal nerve-cells, were in the above mentioned fatigued cells undoubtedly a consequence of excessive work. In fact, the more the dog had been fatigued, the more profoundly altered the nerve-cells of its cerebral or cerebellar cortex were found to be. Moreover, all the above mentioned alterations do not appear simultaneously in the nerve-cells. The two modifications which are the first to show themselves have always been: 1, increase of the pericellular lymphatic space; and 2, decomposition of the pigment masses. The process of destruction was not always of constant type, because it sometimes began at the circumference, sometimes at the center of the protoplasmic mass, and sometimes immediately on the nucleus. The first case, however, was always the most frequent.

Summer Diarrhea: Its Probable Cause. H. POOLE BERRY.—The cause of summer diarrhea is attributed by Berry to a specific infection of the surface subsoil by some specific microorganism.

Craving for Stimulants. HARRY CAMPBELL.—The proposition in Campbell's paper is that the blood normally contains stimulants, and that these exercise a favoring influence on function, and conduce to, and are possibly essential for, the general feeling of well-being. This explains, in his opinion, the widespread liking in man and beast for stimulants, which is therefore physiologic.

Archives de Neurologie, September.

Dual Center of Cortical Oculomotor Innervation. J. ROUX.—Normal anatomy, experimental and clinical and anatomic pathologic observation agree in demonstrating that the eye has two zones of cortical projection, both motor and sensory. One, the anterior oculomotor center, corresponding to the area of the fifth nerve, is probably located at the base of the second frontal. The other corresponds to the zone of sensory projection at the inner inferior surface of the occipital lobe. Each of the centers acts bilaterally and has under its control the entire oculomotor apparatus. An isolated lesion of the anterior center may entail conjugate deviation of the eyes and slight interference with the movements of the lids. An isolated lesion of the posterior center may produce conjugate deviation of the eyes and hemianopsia. Ptosis of cortical origin is perhaps due to a simultaneous lesion of the two oculomotor centers of the same side. A bilateral and symmetric lesion affecting the two anterior oculomotor centers or their disturbing fibers, produces a special clinical picture characterized by the abolition of the voluntary movements of the eyes and lids, with retention of the co-ordinated reflex movements which are under the control of the intact posterior oculomotor centers. Four observations are described.

Progres Medicale (Paris), October 14.

Symptomatic Idiocy From Tuberous or Hypertrophic Sclerosis. Bourneville.—The observation reported forms the seventh in the writer's experience: a child normal to six months, little heredity, with a record of convulsions after this date and complete idiocy; at 17 months fits of screaming, grinding the teeth, intermittent pallor of the face, sleep interrupted by screaming; no signs of intelligence, no attention. Treatment resulted in improvement of character and attention, but teeth-grinding, etc., continued, with death between the third and fourth year of age, from bronchitis. Numerous nuclei of tuberous sclerosis were found on the two surfaces of the cerebral hemispheres, and a row of sclerous nodules extended the whole length of the corpora striata. This hypertrophic or tuberous sclerosis was evidently connected with the convulsions at 6 months, and resulted in idiocy. The concomitant meningo-encephalitis noted was probably the cause of the screaming, teeth-grinding, pallor, etc. It renders more difficult the clinical description of this form of idiocy. In the 10 cases on record of symptomatic idiocy from tuberous sclerosis, it was complicated by epilepsy in 9, with seizures and vertigoes in 7 of these; seizures alone in 1, and in the other vertigoes alone. The tuberous sclerosis was accompanied by meningo-encephalitis in 5 out of the 10.

Hypertrophy of Spleen in Course of Hepatitis. F. Raymond. Chauffard's hypothesis that the spleen is the first organ involved in certain hepatites, and that the infection only spreads secondarily to the liver, was confirmed by a recent observation of a typical case of benign infection by the staphylococcus aureus. The spleen first increased in size, extending two or three finger widths beyond the false ribs. At the end of the week the liver also increased rapidly in size until it extended four finger widths above the costal arch. As the infection subsided, the spleen first and then the liver returned to normal size, proving to a demonstration the capital rôle played by the spleen in the hepatomegalia. Charrin, on the other hand, asserts that the spleen becomes hypertrophied secondarily, to supplement the liver in its antitoxic functions. This theory is supported by the fact that this supplementary action between the spleen and the liver is not restricted to the antitoxic function, but occurs also with a host of other organic phenomena, such as destroying the old red corpuscles when they can no longer serve for the nutritional exchanges. The presence of a large amount of iron in the liver parenchyma, the formation of bilirubin at the expense of the hemoglobin, prove this as far as the liver is concerned, while the accumulation of iron in the interstices of the spleen, the formation of ochre pigment, the destruction of the reds by Kölliker's big cells, and the smaller number of reds in the splenic vein combined with the splenic artery, demonstrate the hematolytic rôle of the spleen. The liver and the spleen also destroy the bacteria in the circulation. These and other less clearly defined functions seem to be first outlined and started in the spleen and completed in the liver in normal conditions. But in the pathologic conditions of the hepatitis, the physiologic activity of the liver diminishes and that of the spleen increases.

Revue de Chirurgie (Paris), October 10.

Treatment of Fractures of the Patella by Suture of the Capsule Without Touching the Bone Fragments. M. Vallas.—This writer describes eight observations which convincingly confirm the value of this method of treatment. Fractures of the patella alone are treated by compression, massage and rapid mobilization, like hemarthrosis of the knee, but when the fibrous tissues around the patella are torn, surgical intervention is necessary. The best procedure is a large arthrotomy, cleansing the joint and suturing the lateral lacerations of the capsule. Suture of the bones is unnecessary. Every fracture leaving a space of at least 2 cm. should be operated on as this can not occur without laceration. But sometimes even with a very small space the rupture has extended into the fibrous tissues; these are the cases which reserve disagreeable surprises for the abstentionists. Vallas usually waits three or four days while treating the knee, as for a hemarthrosis. When the inflammation has subsided it may be possible to palpate a laceration. If the fracture is simple the patient can raise the heel from the plane of the bed by the fourth day, in which case he refrains from further intervention, but if impotence still persists, he performs arthrotomy at once.

Traumatic Paralysis. F. Mally.—The character of the paralysis depends on whether the traumatism was slow and continuous or abrupt and momentary. The histologic lesions are represented by three principal groups: 1, lesions of irritation, constituted by an indistinctly defined condition of the nerve and muscles, recalling the lesions of degenerative atrophy, but transient to lesions of degeneration, represented by the return of the anatomic elements to the embryonal condition: the degenerative atrophy that accompanies paralysis from section of a nerve, serious compression, etc., and 3, the numerical atrophy described by Kippel, which consists in the diminution in the number, but not in the size, of the anatomic elements: this includes serious reflex paralysis, traumatic myelopathy, etc. Mally distinguishes an important group of reflex paralyses among the post-traumatic paralyses of the superior member; a radicular paralysis developing like a myelitis. He has established by the results of traction of the nerve roots and by clinical experience that certain traumatisms may injure the spinal cord directly and induce a paralysis of a myelopathic character. This new group he proposes to call traumatic myelopathy.

Archiv f. Klinische Chirurgie (Berlin), lx, 1.

Bactericidal Action of Bier's "Stagnation Hyperemia." W. Noetzel.—The primary effective influence of this therapeutic measure, and hence the explanation of its curative power, is its remarkable bactericidal action which impresses on the entire process the character of an acute aseptic inflammation. "This artificial concentration of the natural means of defense possessed by the organism is a more logical and scientific method of therapeutics than the introduction of more or less toxic foreign substances." It has proved very successful in the writer's numerous experiences.

Berliner Klinische Wochenschrift, October 9 and 15.

Face Veil a Cause of Erythema. O. Rosenbach.—A veil drawn tight compresses the nose and a portion of each cheek, disturbing the circulation and leading, possibly, to permanent dilation of the vessels and consequent disfiguring redness, the area of which resembles a butterfly in shape, betraying its mechanical origin. The confined steam from the breath also adds to the effect, and entering a warm room directly from the cold outside exaggerates all the evils of the tight veil.

Biologic Test for Arsenic in Hair, Dandruff, Sweat, Urine, Etc. W. Scholtz.—The Journal has mentioned the successful test for arsenic in hides, etc., obtained by sowing the fungus penicillium brevicaule on the suspected substances. It converts the fixed combinations of arsenic into volatile gases with an intense odor of garlic, and thus renders possible the detection of extremely minute amounts of arsenic. Scholtz has found it equally effective in detecting arsenic in tissues from persons who had been taking arsenic for some time. A tenth of a gram of hairs or scales of epidermis would present the specific garlic odor in forty-eight hours, while the control tests were invariably negative. The substance to be tested was mixed with a little nutrient medium and the penicillium inoculated on the slanting stiffened surface. Other fungi possess the same property but in a lesser degree.

Salt Cured Meat and Fish. A. Petterssox.—According to the results of research here reported, preparations of meat and fish with less than 15 per cent. salt always contains a constant and luxuriant vegetation of micro-organisms, with products of micro-organic life, and they owe their specific taste, color, consistency and smell chiefly to the presence of this microbian flora.

Deutsche Medicinische Wochenschrift (Berlin), October 19.

Relations of Leucocytes to Bacteria-Dissolving Substances. MOXTER.—The important research described in this communication from Koch's Institute for Infectious Diseases, was conducted by a method which allowed microscopic control of the bactericidal process as it occurs in animal juices. Comparison of the bactericidal power of effusions with and without leucocytes with that of the serum, failed to establish any facts which indicate that the leucocytes have any influence on the amount of the bactericidal substances. Although slight traces could be detected clinging to the bodies of the leucocytes, yet this could not be accepted as proof that the leucocytes are the producers of these substances, as the latter were found in much larger quantities in animal fluids free from leucocytes than in those containing them. Much more accurate information can be derived with the microscope in studying these bactericidal processes in animal fluids than by counting plate cultures. The influence of agglutination interferes with the correct appreciation of the latter. No facts were discovered which indicate any production of alexins by the leucocytes, and no regular connection between the number of leucocytes and the degree of the bacteria-dissolving process could be established.

Centralblatt f. Chirurgie (Leipsic), October 14 and 21.

New Method of Removable Buried Suture. D. STAPLER.—The needle is inserted through the tissues a short distance back from the right edge of the wound, and brought up through the deep layers of the opposite edge and then back, passing over the deep layers of the first side and then up, emerging a short distance below where it first went in. The thread is then cut, leaving the two ends hanging. The second stitch is taken in the same way, commencing on the other side and leaving the ends hanging on this left side. Each alternate stitch is thus taken from opposite sides and is tied over a roll of gauze. Stapler always leaves a space a millimeter wide in suturing the deep layers to prevent necrosis from the threads pulling as the intestines become distended with gas. The stitches are removed by cutting the thread close to the skin and pulling on the other end, when it comes out without the least difficulty.

Cocainization of Spinal Cord. J. B. SELDOWITSCH.—Bier recently published his experience with anesthesia successfully induced by injecting cocain directly into the spinal canal, as mentioned in the JOURNAL at the time. Seldowitsch confirms the efficacy of the procedure both by experimental and four clinical tests, the latter consisting in the amputation of a leg or resection of the knee, absolutely painless after injection of a 1 or .5 per cent. solution into the spinal canal, the amount of cocain varying from .006 to .01. Anesthesia was complete in five to nine minutes—patients conversing during the operation—but in every case a chill was noted two or three hours afterward and the temperature rose to 39 C., 40 C. in one case, subsiding again to normal in a few hours. There was also headache and slight nausea, but all these symptoms vanished within twenty-four hours. One of the subjects succumbed to cachexia five weeks after removal of the leg for sarcoma, and nothing abnormal could be detected in the spinal canal nor in the cord. Further research may suggest a means to obviate these unpleasant after-effects of this otherwise brilliantly successful method of anesthesia.

New Process of Resection of Elbow-Joint. T. CAVAZZANI.—The aim of the ideal operation is to spare the bones and soft parts as much as possible, and yet have sufficient room for examination and resection of all the recesses of the joint as may be needed. The method here proposed fulfills these conditions most admirably, according to the author. The entire joint is exposed to view, and yet none of the vessels or nerves are injured and the radial nerve is left entirely intact. The triceps tendon is only half separated, the epitrochlear muscles are spared, the ulnar nerve is not even pushed aside, and the lig. lat. int. and the inner half of the capsule not divided in most cases. The soft parts heal in eight to ten days, and passive movements can then be begun. The incision through the skin and subcutaneous connective tissue commences outside of the tendon of the biceps, 2 cm. below the external condyle, and is carried obliquely from behind upward, terminating at the inner edge of the ulna near the tip of the olecranon. The arm is stretched during the first half of the incision and half flexed during the second half to stretch the skin. The upper flap is loosened to expose the notch between the anconeus and the muscles attached to the outer condyle. The latter is then exposed. The aponeurosis is then divided lengthwise from the collum radii over the outer condyle, pushing the muscles attached to the condyle inward, while their origin on the humerus is detached under the periosteum. The capsule is thus opened up to the proc. coronoideus ulnæ. On the other side the attachment of the anconeus is detached or cut across, thus entirely freeing the external condyle from all muscular connection with the forearm. The capsule is thus also exposed back to the olecranon. The tendon of the triceps is next partially divided, in connection with the periosteum of the ulna, but only its outer portion, exposing the radial half of the olecranon and its tip, although only half the tendon is severed. The joint is then opened. The external lateral ligament and the capsule are divided in the line of the joint, forward as far as the coronoid process and backward to the tip of the olecranon. The forearm is then dislocated from the upper arm by flexing it in exaggerated adduction until the inside edge of the hand touches the axilla. The operation completed, the forearm is restored to its opposite position, the external lateral, the anconeus and the skin are sutured, and the articulation is restored to its previous condition without any great injury.

Fortschritte der Medicin, October 11.

Test Tube for Ehrlich's Diazo-Reaction. B. RANKE.—The tube terminates below in a smaller tube, about one-fifth of the diameter of the upper one. This lower extension, which holds .2 c.c., is filled with the solution of natr. nitr. and the sulfanilic acid poured in above this to a mark representing 10 c.c., and the urine to another mark representing 10 c.c. additional. The tube is then shaken and as the contents froth the liquid sinks a little below the last mark. Ammonia is then added to bring it up again to this mark, when with further shaking the test is complete with no waste of material, and the proportions mathematically exact.

Muenchener Medicinische Wochenschrift, October 17.

Diazo-Reaction in Urine and Bacteria in Blood of Phthisical Subjects. SCHROEDER AND NAGELSBACH. This comprehensive study is based on numerous analyses by himself and others—tests which have established that Ehrlich's diazo-reaction in the urine of phthisical subjects is a sign of evil prognosis. It completes in a few cases, but can not take the place of clinical prognosis in phthisis. It has a certain value in foretelling a fatal termination, but is otherwise far from indispensable. The coincidence of the diazo-reaction in the urine and of bacteria in the blood was never established. The passage of bacteria, especially the pyogenic, into the blood of phthisical subjects, should only be regarded as a phenomenon accompanying the death struggle. It has therefore no significance in the interpretation of hectic fever. The research reported in this communication throws no light on the question of mixed infection in phthisis.

Virchow's Archiv (Berlin), October 5.

Multiple Gliomata of Spinal Cord. M. FREUDWEILER.—A large number of small tumors were scattered throughout the spinal cord, chiefly in the gray, but also in the white substance, in different stages of development, each developing independently on a homogeneous tissue. The subject was a man who had succumbed to acute traumatic tetanus. The writer remarks that this observation is unique.

St. Petersburger Medicinische Wochenschrift, October 5.

Sexual Hygiene. E. HOERSCHELMANN.—The Public Morality League in Norway formally requested the advice of the Christiania Medical Faculty in regard to the question whether sexual continence was injurious to the health in any way. The reply was: "We know of no affection nor any weakness of which it can be said that it owes its origin to a perfectly chaste and moral life." Hoerschelmann quotes numerous authorities in support of this view, and also Bjornson's assertion that "our physicians are not yet our ethical advisers to the extent that they should be," and urges: "let us no longer allow this reproof to rest on our profession, and let us reflect that the consequences of advice from us to the contrary are of much more extensive and far-reaching import than is evident at the first glance." The assumption that sexual abstinence is injurious to the health of a physically and psychically normal young man or woman has never been demonstrated and has no foundation in medical experience. Sexual continence does not favor the development of onanism and masturbation in otherwise normal conditions. He agrees with Hegar that the dangers of promiscuous intercourse are now so well established that only the weak-minded or extremely frivolous would resort to it if it were not for the assumed approval of the physician, and that the latter should absolutely reject this responsibility.

Societies.

COMING MEETINGS.

Tri-State Medical Association of Mississippi, Arkansas and Tennessee, Memphis, November 14-16.
Oklahoma Territory Medical Society, Guthrie, November 16.
Southern Surgical and Gynecological Association, New Orleans, La., December 5-7.
Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.
Indian Territory Medical Association, Wagoner, December.

Central Illinois Medical Society.—The twenty-fifth annual meeting of this Society, the largest meeting since organization, was held in Pana, Ill., October 31. The next will be held in the same city, April 10, 1900.

Washington (D. C.) Obstetrical and Gynecological Society.—At the 305th meeting of the Society, held November 3, Dr. Kelly read a paper on malignant disease of the kidney in children reporting a case and presenting a specimen. Dr. Acker followed with a discussion of the matter.

Davies County Medical Association.—In Owensboro, Ky., recently, this Association was organized and officers elected as follows: president, J. W. Ellis, Masonville; first vice-president, C. J. Lockhart, Ensor; secretary, J. J. Rodman, Owensboro; treasurer, J. L. Early, Knottsville. There will be four regular meetings annually, the first Tuesday in January, April, June and October.

Union District Medical Society.—This Society elected the following as officers, at the recent meeting held in Connersville, Ind.: president, G. Pigman, Liberty, Ind.; vice-president, O. Meyer, Rushville, Ind.; secretary, J. E. Torrence, Oxford, Ohio. The Society comprises members from two Ohio and three Indiana counties, and will hold the next session in Liberty, Ind., in April, 1900.

Bucks County Medical Society.—At the last meeting of this Society, held in Doylestown, Pa., November 1, the following officers were elected: president, Abraham S. Wilson, Bristol; vice-presidents, Noah S. Nonamaker, Bedminster, and John A. Fell, Doylestown; secretary, A. F. Myers, Blooming Glen; treasurer, Frank Swartlander, Doylestown. The next meeting will be held in Quakertown, in February, 1900.

Tri-State Medical Society.—The newly elected officers for this Society, which met in Chattanooga, Tenn., recently (see Journal, November 4, p. 1164), are: president, R. R. Kime, Atlanta, Ga.; vice-presidents, F. W. McRea, Atlanta, E. T. Camp, Gadsden, Ala.; F. B. Sloan, Cowan, Tenn.; secretary, Frank Trester Smith, Chattanooga; treasurer, George R. West, Chattanooga. The Society meets next year in the same city.

Brainerd District Medical Society.—The twenty-second annual autumnal meeting of this Society was held in Lincoln, Ill., October 26. Delegates were present from Logan, Mason, Tazewell, Menard, Sangamon and Morgan counties. Dr. Carl E. Black, Jacksonville, made two addresses, one on "Microscopy," another on "Necrosis of the Tibia." Others were: "Stone in the Urinary Bladder and Pelvis of the Kidney," George N. Kreider, Springfield; "Unusual Features of Mastoid Diseases," F. P. Norbury, Jacksonville; "Cases Illustrating Types of Cerebral Hemorrhage," S. P. Cargill, Mason City. The next meeting will be held in Jacksonville.

American Public Health Association.

Twenty-seventh Annual Meeting, Held in Minneapolis, Minn., Oct. 31-Nov. 3, 1899.

First Day—Morning Session.

Out of a membership of nearly 1000 about 125 were present at the opening session.

ETIOLOGY OF YELLOW FEVER.

Dr. H. B. Horlbeck, Charleston, S. C., chairman of the committee appointed on this subject, presented this report, which was a résumé of the work already done on this question.

YELLOW FEVER IN MEXICO.

Dr. Edward Enardo Liceago, president of the Superior Board of Health of Mexico City, sent a report covering the cases observed by the Mexican Republic from Sept. 12, 1898, to Sept. 15, 1899. Among other things the report stated that yellow fever appeared in September last in Orizaba, Mexico, for the first time, this city having always been considered immune. Previous reports state that yellow fever does not appear above a height of 1008 meters.

DATA, WITH BACTERIOLOGIC STUDY OF YELLOW FEVER.

Dr. Ismael Prieto, assistant bacteriologist of the Superior Board of Health of Mexico City, sent this paper, which was, as was the paper above, read by Mr. Joseph Romero, one of the secretaries of the Mexican Embassy in Washington, D. C.

DISINFECTION OF VESSELS.

Dr. Marciso del Rio, Vera Cruz, Mex., submitted a paper entitled "Necessity of Making a Complete and General Disinfection of the Vessels in Order to Make It Efficacious, Proving That Partial Disinfection Is Useless in Cases of Yellow Fever," also read by Mr. Romero.

YELLOW FEVER A PREVENTABLE DISEASE.

Dr. Antinio Matienzo, Tampico, Tamalipas, submitted this paper, read by Mr. Romero, which was discussed with the above.

Dr. C. P. Wilkinson, New Orleans, La., advised the use of mercuric bichlorid, 1 to 800, when washing the wood-work of the vessel, also dioxid fumes. Formaldehyde is used by the United States Government almost altogether, steam in some instances. When the application of disinfection is limited, then cremation and even burning of houses, bedding and wearing apparel is often resorted to. Formaldehyde is rapidly taking the place of other disinfectants and is employed in scarlet fever, diphtheria and smallpox as well as in yellow fever, by being sprinkled on the sheets in globules, two or three sheets being thus utilized. The holds, cargoes and engines of vessels are not touched by disinfectants. The portions occupied as sleeping apartments, etc., are treated with dry heat and steam. With 2000 thus disinfected, yellow fever only appeared subsequently in four.

Dr. W. A. R. Tenney, Cincinnati, Ohio, pointed out that formaldehyde is a very certain method.

Dr. F. Montizambert, Ottawa, Canada, related his experience with a vessel which recently arrived from the Black Sea, with cases of smallpox. (Journal, September 2, p. 621.)

Dr. L. V. Cabana, Fall River, Mass., spoke of the French disinfectant called "germol," which he had used in solution for the past few years with success.

Dr. L. H. Montgomery, Chicago, inquired of Dr. del Rio whether the statement was true that yellow fever prevailed in Vera Cruz the past summer to the extent that twenty-five to fifty deaths occurred.

Dr. del Rio answered negatively.

Dr. H. B. Horlbeck, Charleston, S. C., urged that we exert our influence with the authorities at Washington, D.C., to get the government to send a commission, as recommended in his report referred to above, to some of these infected cities to study the disease.

INFLUENCE OF FORESTS ON PUBLIC HEALTH.

Dr. H. M. Bracken, Minneapolis, Minn., presented a communication from the state fire warden, regarding the proposed National Park in that state, and read a paper with the above title, by Dr. Brenna, Zacatecas, Mex.

Prof. John T. Smock, Trenton, N. J., sent a paper on the same subject, the two being discussed together.

Dr. Benjamin Lee, Philadelphia, Pa., advised the organization of a voluntary foresters' association or special arbor days n schools for tree planting as an object-lesson to the children.

Dr. G. T. Swartz, Providence, R. I., introduced a resolution o the effect that the planting of trees in large parks one day n the year should be indorsed, and that the Association be equested to use its influence for the reservation of large forsts in Minnesota. This was referred to the executive council.

First Day—Afternoon Session.

HYGIENIC LABORATORIES.

Prof. W. H. Welch, Baltimore, Md., gave some interesting ata on this question. The first chemical laboratory was ounded by von Liebig, in 1820 or 1830, and the first hygienic n 1878, by Pettenkofer of Munich. Professor Welch dwelt t length on municipal and state institutions and private aboratories in general, and stated that probably not to exeed four or five hygienic ones are connected with American niversities, as they are expensive to operate and not largely atronized. The patronage of such municipal laboratories y physicians gives them fields of usefulness in the diagnosis f scarlet fever, diphtheria, etc. He favors an organization f the working bacteriologists, and making it a section of the ssociation, to meet a day preceding the annual meeting if esired.

DUCATIONAL INSTITUTIONS AND THE SERVICES OF IMPORTANT COMMERCIAL WORK.

Mrs. Ellen H. Richards, Boston, read a paper on this subect. For municipal and state laboratories she had only raise as to their effect on the education of the public. Though er own state is supposed to take the lead in sanitary maters, the death-rate has not been perceptibly lowered in the ast forty-six years. She censured the present chemical ommercial bacteriologist who furnishes the results of analses for a fee, for the benefit of private individuals, and said hat such results should not be accepted as authoritative as esults from municipal laboratories.

PRESENT EXPERIENCE ON DISINFECTION.

Dr. Wyatt Johnson, Montreal, Canada, presented this opic, giving his experience relating to formaldehyde since it ame into use. He prefers this to steam unless the disinfecion has to be quick. He has not found that pressure applied vith formaldehyde gives better results than its use without ressure. The details of using other disinfectants were enered into minutely.

Dr. C. P. Wilkinson, New Orleans, La., inquired whether eat had much to do with the efficiency of the gas.

Dr. Amand Ravold, St. Louis, Mo., spoke of a case of smallox in a traveling man who came to his city in a Pullman leeping-car, supposedly contracting the disease therein. He welt at length on the Pullman method of disinfection, also isinfection for scarlet fever.

Dr. Sprague, of the marine-hospital service, gave his exerience in the use of formaldehyde to kill anthrax bacilli. Ie stated that ammonia and free exposure of air removes the ormaldehyde after disinfection.

Dr. A. Gehrman, Chicago, described the method of disinection by formaldehyde in his city. Sheets suspended by the orner are used, sprayed with formaldehyde, the time limit eing four hours at least, longer if possible. He said that he Chicago method had been adopted by the Pullman comany.

Dr. J. N. Hurty, Indianapolis, Ind., suggested the use of n anatomizer propelled by compressed air, for disinfecting ailway coaches, the formaldehyde, mixed with glycerin and vater, being blown over the plush with a hose. He found hat diphtheria germs on the back of the car seats were detroyed in every instance.

Dr. F. C. Robinson, Brunswick, Me., spoke of some plans o be formulated for the disinfection of glazed surfaces, lass, varnish, etc.

Dr. H. B. Horlbeck, Charleston, S. C., uses pastilles which volve the gas rapidly, and their simplicity commends them. From 200 to 500 of these pastilles are used.

Dr. S. H. Durgin, Boston, said 20 ounces of the saturated olution to 1000 cubic feet of space was the minimum used n his city.

Dr. Wyatt Johnson thought 20 ounces rather an excessive amount for 1000 cubic feet of space, 8 ounces usually being regarded as sufficient, or an even pound to make the disinfection positive. In answer to a query, he answered that he had not used glycerin with formaldehyde, and that a strong formaldehyde gas will not so rapidly disinfect where particles of grease, for instance, have accumulated in the bristles of a brush.

First Day—Evening Session.

This session was largely devoted to addresses of welcome by the mayor, president of the state university, president of the Hennepin County Medical Society and others.

PRESIDENTIAL ADDRESS.

Dr. Henry Mitchell, president of the Association, delivered his presidential address. He eulogized the late Dr. Geo. N. Rohé, who a year ago received the highest honor within the province of the Association—the presidency. He referred to the organization of the Association, in 1872, to recent sanitary progress, and expressed gratification that the post-office departments of the three countries of North America have, in response to the advice and request of the Association, permitted the transportation of specimens for examination in the laboratories, and that the work of these institutions has been greatly aided by the judicious adaptation of the postal regulations to the necessities of their operations.

He said: "Considerable progress has been made toward the adoption by state and municipal registration authorities in the United States, of a system for the classification of deaths, uniform with that already in operation in Mexico and Canada and in various European countries, and it is to be hoped that before the beginning of the year 1901 this movement will have found favor in many additional registration districts. This Association is to be congratulated on the assistance which its influence has exerted in forwarding this very desirable improvement in the classification of deaths, and the judicious activity of those members to whom this subject was entrusted is worthy of high commendation.

"The medical profession has ever evinced an active interest in preventive measures for the suppression of disease, and within the past few years this interest has increased in keeping with the advances made in knowledge concerning the nature of numerous affections which have been added to the list of those proved to be communicable, and this increased interest is indicated by the striking prominence recently given to public hygiene in various leading medical organizations. There has been no abatement in the battle against this profession on the part of the self-styled 'Christian Scientists,' divine healers, *et al*, including antivivisectionists, the illogical tenets of whose faith continues to attract to their ranks a certain class of silly people—a class which betrays in its fanatical adherence to preposterous and obstructive vagaries unmistakable evidences of mental irresponsibility, becoming easy prey to the designing charlatans who reap a financial harvest by pretending to cure disease by incantations or other unscientific processes."

He pointed out that during the existence of the Association, legislation designed to protect and promote the public health has been obtained in almost all of the states within the territory represented in the membership, and efforts are now being made to secure a greater degree of uniformity in these enactments and in the methods to be pursued in their enforcement, at least in so far as they are related to interstate questions.

"That legislatures have finally advanced more rapidly in providing authority for sanitary undertakings than local boards of health have proceeded in the execution of the laws, is apparent, and one of the next steps forward in promoting public health interests on this side of the Atlantic will consist in the extension of facilities for the instruction of the persons who are intending to pursue the business or occupation of sanitary inspectors." He said that "sanitary inspection has been recognized by a few institutions of learning in the United States, as an art which demands on the part of its practitioners careful preparation for the duties and responsibilities of their calling, and instruction has been offered to those who are already engaged in the work of sanitary inspection, and also to those who may desire to take up this employment.

"Objection is made that no system for the instruction of sanitary inspectors can be satisfactorily conducted until the service of those who become competent to perform the duties demanded of these officers shall be better appreciated by the public, and be better paid by municipal authorities, but it appears that the supply must anticipate the demand in this instance, otherwise local sanitary authorities will have no opportunity of learning the advantages which attend the employment of men who have been properly prepared to perform the complex and highly skillful labors required in detecting and curing the various conditions which endanger or impair the public health. Who without training is qualified to expose the dangers which exist in the food-supply; to investigate and point out errors or fraud in the plumbing, ventilation and drainage of buildings; to disinfect dwellings; to direct measures for the prevention of the spread of communicable diseases? Shall we doubt that as soon as suitable institutions shall have fully established the requisite courses of instruction, that applicants will appear who will desire to prepare themselves for appointment to positions in the employment of municipalities, and that boards of health will be disposed to secure the service of trained men, and be willing to recommend the payment of reasonable compensation?

"A sanitary education is no less needed for administrative officers than for inspectors, and it is to be hoped that the colleges and universities of America will soon follow the example of the sixteen English institutions which now offer a post-graduate course in hygiene, and grant diplomas in public health."

Relative to the reduction of mortality which has attended intelligent application of the newly-acquired knowledge of the etiology of certain communicable diseases, he said that "the most important element in the enormous saving of child life which is now occurring consists in a better understanding of the dangers attending the use of unclean milk, and it is reasonable to believe that still more gratifying results are to follow, for thus far the protective measures against infected milk have been almost entirely applied to this article of food after it is delivered to the consumer, but when producers shall intelligently and faithfully adhere to the laws of asepsis in the collection, cooling, storage, transportation and delivery of milk, then will we be able to learn the true value of hygiene, so far as it affects the food of infants. . . . By aid of the lactometer the dealer is able to 'water' and 'skim' with a high degree of skill, and the consumer has the satisfaction of receiving a product having almost unvarying uniformity as far as its specific gravity is concerned, and if the water is taken from an uncontaminated source, the seller and buyer may adjust the dilution question by an adjustment of the price. But cleanliness of the milk and its freedom from pathogenic bacteria constitute another and very much more important line of inquiry for the sanitary officer, and he recognizes the demand which consumers are making for milk which is produced on clean premises, by clean persons, and which is collected and sold under conditions which protect it against contamination."

He spoke of typhoid fever, its prevalence in the camps in the late war justifying its selection as a typical illustration of the value to the public health of a rigid application of the principles of hygiene, and said that: "The omnipresence of the colon bacillus shows to what a surprising extent the human animal, even in this enlightened age, defiles the localities in which he dwells—the soil, the water and the food being contaminated so often that this condition may be regarded as usual and ordinary, and avenues for the dissemination of typhoid fever may therefore be considered to be always open."

He also spoke of the indifference of the masses as to vaccination, and went at length into the subject of tuberculosis. "Conservative recommendations for checking the prevalence of tuberculosis include: 1, inspection of all bovine animals, meat, dairy products and dairy premises; 2, destruction of diseased animals and prohibition of the sale of diseased meat and milk; 3, exclusion of diseased persons from markets, dairies and other premises where food is prepared or sold; 4, frequent and regular disinfection of public conveyances and places of public assembly; 5, disinfection of all infected apartments after death or removal of patients."

In speaking of local sanitary administration, he said that: "Until local sanitary authorities, particularly those in small municipalities and in rural districts, shall become more efficient than they are at present, the influence and assistance of state boards of health are not measurable. Municipal concerns become yearly more complex and the relations which they bear to one another become more numerous and more in need of adjustment. It is more difficult every succeeding year to obtain special local powers by legislative acts, and certain conditions affecting the public health must, of necessity, continue to be controlled by a central authority. In the better organized districts there is still but little uniformity in the application of the health laws and ordinances, and many communities are solving anew the problems which have already been worked out in other towns. The scope of the work of a state board of health varies in accordance with the sanitary progress already made in the commonwealth, and is also greatly modified by geographical, financial and numerous other conditions and considerations.

"The necessity for establishing in the United States a national department of public health has been strengthened by recent events, the addition of tropical possessions having added new responsibilities to those already borne by the general government requiring investigations concerning the distribution and character of the preventable diseases occurring throughout the entire territory occupied by the nation. A department of health controlled, so far as its general course of investigations and executive action is concerned, by representatives of all of the states, is demanded by sanitarians almost without dissent. Let us hope that before the dawn of the new century Congress will have provided the necessary legislation, and that all questions relating to maritime quarantine and interstate restrictions during the prevalence of epidemics will be administered by a central representative body."

(To be continued.)

Vermont State Medical Society.

Abstract of Proceedings of the Eighty-sixth Annual Meeting, Held in Burlington, Vt., Oct. 13, and 14, 1899.

(Concluded from Page 1167.)

SECOND DAY—MORNING SESSION.

ADENOID GROWTHS OF POST-PHARYNX.

Dr. Geo. H. Gorham of Bellows Falls read a paper on this subject. He stated that there is a general lack of knowledge in the profession in regard to adenoid vegetations, due to the fact that the subject has been neglected by writers of general text-books, and those in medical journals, as well as by the professors in our colleges. Adenoids are of two varieties, the soft and the hard, and occur in children of all ages, up to adult life. In the cases of his observation there were 25 per cent. more females than males affected, and 75 per cent. had middle-ear trouble and 50 per cent. hypertrophy of the faucial tonsils.

There is but one effective method of treating these growths, and that is to remove them under an anesthetic. He prefers the upright to the horizontal position for operating, and does not believe a thorough operation can be done with the finger-nail, but advocates the use of Gottstein's curette, or the Lowenberg forceps, or some modification of these. The after-treatment consists in the use of an antiseptic spray. Most cases show marked improvement in the general health after the operation.

OPERATIVE TREATMENT OF UTERINE FIBROIDS.

Dr. F. A. L. Lockart of Montreal presented a paper on the above subject. He said the first point to be considered is *when to operate*. This should not be until after medical treatment has been tried thoroughly and has failed. If the growth is increasing in size, some operative method should be tried without delay, especially if the patient be near or past the menopause, as then malignant degeneration is liable to take place. Again, where the tumor is impacted in the pelvis, and the uterus contains a growing ovum, the only way in which room can be obtained for delivery *per vias naturales* is by removal of the growth. Excessive hemorrhage, degenerations of the tumor, carcinomatous or suppurative, and pressure or neurotic symptoms also call for prompt operative interference. Where a uterine fibroid is lying perfectly quiescent and giving no trouble, it should be left severely alone.

The nature of the operation to be performed will depend on the indications for interference and the site of the tumor. The operations are as follows: 1. Curetting. 2. Ligature of he uterine arteries per vaginam, i. e., Martin's operation. 3. Oöphorectomy—Tait's operation. 4. Myomectomy, by enuleation or otherwise. 5. Hysterectomy; *a*, total—1, abdomnal; 2, vaginal; 3, abdomino-vaginal. *b*, supravaginal.

Curetting is merely a palliative measure, as is also, in many ases, ligature of the uterine arteries. The latter operation is ontraindicated: 1, where the tumor is either submucous, or subserous; 2, where it has risen out of the pelvis so that he bases of the broad ligament can not be reached; 3, where he patient is near the menopause and has a large tumor which has suddenly taken on activity, the tendency of such a tumor o become malignant being much greater than where it is of mall size.

Removal of the appendages ought to be merely a dernier esort, as it practically never cures, and does not always even elieve.

Myomectomy is to be chosen: 1, where the tumor is ubmucous and pedunculated; 2, where it is subserous and ither has a pedicle or its border is well defined; 3, where sevral small nodules lie immediately beneath the peritoneum.

Total hysterectomy is indicated: 1, where the tumor is ubmucous and not pedunculated, and the cervix can not be ilated sufficiently to allow of morcellement; 2, where the umor is either interstitial, large and subserous without a edicle, soft, fibrocystic or undergoing degeneration; 3, where he tumor is complicated by diseased adnexa. Although hyserectomy is the most radical operation, it is the one employed y most operators on the continent of Europe and on this side f the Atlantic, for the following reasons: 1, if the patient ecovers there can be no return of the disease; 2, in the hands f a skilled operator it is less dangerous than myomectomy by nucleation or morcellement. The writer prefers complete to upravaginal hysterectomy, claiming that the removal of the ervix does not add to the gravity of the operation, and further hat there is not so much shortening of the vagina following omplete as partial hysterectomy. As to the choice between aginal and abdominal hysterectomy, he said the two should ot be considered as rivals. The former is adapted to cases of mall tumors, which may be readily reached and where the assage is roomy. All fibroids larger than a fetal head should e removed by total abdominal hysterectomy. The writer preers vaginal hysterectomy with ligatures, rather than with lamps.

ECLAMPSIA.

Dr. F. L. Brigham of Pittsfield, in his paper on this subject, aid that eclampsia is a symptomatic disorder characterized y convulsive or epileptiform seizures that suddenly come on rior to, during or after labor. Its frequency is about 1 in 500 regnancies, and the death-rate nearly 1 in 700 confinements.

The most important premonitory symptom is headache. Other symptoms are vertigo, gloomy forebodings, flashes of ght, contracted pupils, amblyopia, sometimes amaurosis, ringng in the ears, nausea, vomiting, dyspnea, edema of the face, abia majora and extremities, and finally and of most importnce, the presence of albumin and casts in the urine.

Treatment is preventive and curative, the former by far he most important. Treatment consists in opening the bowls, preferably by salines, the administration of bromids and hloral, and chloroform to control the convulsive seizure, the dministration of fluid extract of veratrum viride, pilocarpin ypodermically, and bleeding. The writer believes that verarum viride is a remedy that will successfully supplant the use f the lancet in the treatment of puerperal eclampsia.

PUERILE INDIGESTION.

Dr. F. C. Morgan of Felchville read a paper with this title. He said that the most perplexing matter confronting the physician in the treatment of infantile diseases, is the nursing bottle. In all cases of indigestion in infants the first attention should be paid to the clothing, hygiene and diet. If the child s nursing, be sure the mother's milk is of good quality. If the mother is debilitated, give her tonics, such as iron, quinin, strychnia, hypophosphites, etc., and sometimes lactophosphate of calcium.

If the child is bottle-fed, the trouble may be with the quality of the food. Unmodified cow's milk is unfit for infant feeding. In many cases peptonized milk, with the addition of sugar of milk and cream in proper proportion is the best food. Other patients thrive best on some of the prepared foods, and in serious cases of indigestion he finds malted milk the best.

PNEUMONIA: ETIOLOGY AND TREATMENT.

Dr. D. L. Burnett of South Royalton presented a paper on this subject, in which he said that treatment is of little value in shortening the length of the disease. Lobar pneumonia is caused by two germs, the pneumococcus of Friedlander and the diplococcus of Fraenkel, the latter being most virulent, and present in about 75 per cent. of cases. Staphylococcus and streptococcus infection are also etiologic factors of importance.

Treatment has undergone marked changes in the last half century. Venesection is now rarely practiced. In 90 per cent. of the cases an initial dose of mild chlorid is indicated. After unloading the bowels, put the patient well under the effect of opium and hold him there for two or three days until the sudden shock to the nervous system is somewhat relieved. Antipyretics are seldom indicated. Excessive fever may usually be controlled by cold sponging. Watch and treat the heart. Glonoin, strychnia, spirits of camphor, aromatic spirits of ammonia and brandy are valuable. Expectorants are not indicated, as a rule. Allow plenty of water. Insomnia is often relieved by hyoscyamin. Counter-irritation is of little value in the first stage of the disease. When resolution is delayed, small fly blisters are valuable. Keep the chest warm by means of a cotton jacket. Give easily digested food often and in small quantities. During convalescencse give tonics, especially iron and strychnia, with the vegetable bitters. If resolution is delayed, iodids are of use, especially iodid of ammonium.

SURGERY IN ITS RELATION TO FEMALE PELVIC ORGANS.

Dr. J. B. Wheeler of Burlington presented a paper with the above title. He said that a decided reaction has set in against the radical surgery of the female pelvic organs which was so prevalent a few years ago. We are told that we operate too often and too radically and are advised to use more discrimination in the selection of cases for operation and, when we do operate to stop short of the total ablation of organs and remove only such portions as appear to be diseased. In at least one respect this conservatism has proved beneficial. It is nowadays hard to find an operator who is willing to remove apparently normal pelvic organs with the expectation of relieving symptoms whose origin is in the central nervous system. It does not follow, however, that organic disease of the pelvic viscera does not require operative interference. That many practitioners do not appreciate this trite statement is shown by the women who come to us with advanced disease of the ovaries, tubes and uterus, for which they have been treated for months or even years with nothing but tonics, anodynes and local applications.

If indiscriminate operating is often responsible for the sacrifice of healthy organs, reluctance to operate also has a heavy responsibiltiy to bear in the shape of the invalidism which it fosters. There is no question of unsexing a woman who is already unsexed by disease. The only question is, whether her sufferings shall be ended by the removal of their cause. The conservatism which saves organs rather than health, is not a true conservatism.

Partial operations are advocated by some of the ablest gynecologists, with a view to preserving normal tissue and normal functional activity. This is a most desirable object and the efforts which are being made in this direction are interesting and praiseworthy. But when functional activity is hopelessly depraved, or when it has ceased altogether, it is not worth while to make much of an effort in its behalf. And when a partial operation is followed by the same symptoms which preceded it, and these symptoms disappear after the performance of a second and complete operation, the first one does not seem such a conservative proceeding as it did when it was done. Such cases occur often enough to show that there is quite a proportion in which disease is more extensive than it appears, and that in such cases complete removal of the diseased organs is more efficacious than the most skilful partial operation.

The principal objections urged against radical operations on the female pelvic organs are: 1, that the patient is rendered sterile; 2, that she is rendered coarse and masculine in appearance and voice; 3, that such operations often produce insanity.

The first objection has great weight in the case of a young woman, but not in or after middle life. The condition to which the second objection refers, is very uncommon and greatly exaggerated. On the question of the causation of insanity by radical gynecologic operations, authorities differ. But as these operations are done more often than any others, on patients whose minds are already somewhat unsettled, they may be followed by a larger number of cases of insanity, but if any other equally severe operations were performed on such patients, the effect on the mind would be the same.

Partial operations have not yet been done in sufficient numbers, nor for a long enough time, to enable us to draw definite conclusions as to their value. The following propositions, however, are submitted: 1. In operative gynecologic cases, the best prospect of a complete and speedy restoration to health is afforded by a radical operation. 2. In the case of a young woman, with most of her child-bearing life before her, it may be justifiable to offer the less reliable aid of a partial operation, in order to give her every chance to preserve the function of reproduction. 3. In the case of a woman approaching the menopause—and *a fortiori* if she has passed it—there is no valid reason for refusing to give her the benefit of a radical operation.

RESOLUTION ON MEDICAL LICENSURE.

The following was unanimously adopted:

Resolved, That the Vermont State Medical Society most heartily endorses the movement inaugurated by the Wayne County (Mich.) Medical Society, looking toward an equal system of licensure for medical practitioners throughout the various states, or a system of reciprocity between states having essentially the same requirements. (See Journal, September 23, p. 799.)

Officers were elected as announced in the Journal, October 28, p. 1097.

Chicago Academy of Medicine.

Sept. 22, 1899.

(Concluded from Page 1167.)

RELATIVE TOXICITY OF COCAIN AND EUCAIN.

Dr. A. H. Peck presented this paper, which may be read in the Journal of September 9.

Dr. James G. Kiernan—There are a number of stomatologic, pathologic, rhinologic, opthalmologic and other relations, as well as a number of general therapeutic relations, of cocain and eucain which deserve discussion. In the first place, these experiments deal with what the Germans have called the etiologic moment. This is constituted by the peculiarities of the individual generally as well as at the time the therapeutic or pathologic influence is exerted. In dealing with guinea-pigs this factor must not only be taken into consideration, but also certain local factors affecting the drugs with which experiments have been made. Guinea-pigs belong to the rodents. The rodents and pachyderms are closely connected. The pachyderms—e. g., the horse—whenever the kidneys are out of order, express it by paraplegia. In Dr. Peck's experiments it is rather strongly noticed that cocain has expressed itself very frequently in the guinea-pig by paraplegic conditions. This should be expected from the relationship just cited. Furthermore, in dealing with cocain, as well as any agent which exercises a gastro-intestinal inhibitory influence, and therefore means a certain amount of hepatic and renal influence, some of the conditions which he has described must be expected. If there be gastro-intestinal and renal and hepatic inhibitory influence exerted, there will frequently occur conditions irrespective of action per se. Another peculiar thing is likely to occur. The kidneys, liver and intestines do not act properly. There will then be certain stomatologic phenomena, since to a certain extent the gums are going to take part in the stomatologic excretion. Dr. Peck pointed out that while cocain exercised just exactly this condition, it is much more likely to be followed by changes around the gums, and, I may state, around the tonsils in connection with pathologic changes. He is not inclined to refer them to bacteriologic infection, but it should be remembered that there are two factors in bacteriologic infection; the individual who is infected and the bacteria. In this case an excellent culture-medium would be provided for the bacteria by the cocain, and precisely these conditions would result.

Clinically, I can support Dr. Peck's experiments from a psychiatric standpoint. At one time it was a favorite theory that cocain was excellently adapted to the treatment of melancholia. If there be any psychic condition which furnishes a beautiful culture-medium for a number of bacteria, it is melancholia. The intestinal and the general atony are suitable for this condition. While cocain has a psychic stimulant effect, it also has a gastro-intestinal inhibitory effect, and the melancholiac who got cocain or coco for treatment used to be a beautiful subject, not so much for infection by the mouth, as for conditions like Reynaud's disease, and this latter took the direction of gangrene.

Dr. Henry Gradle—Dr. Peck emphasized the inconstancy of the anesthetic effect of cocain. This opinion is not borne out by clinical experience. Cocain produces the same degree of anesthesia under the same circumstances in every case. The anesthesia fails under conditions with which we are familiar. For instance, in the case of the eye, we can not induce thorough anesthesia whenever the conjunctiva is congested or whenever there is intense ciliary injection. If we can control the congestion with suprarenal extract, the cocain effect will be obtained every time. The same thing applies to nasopharyngeal cases when there is an inflamed surface. The cocain, although evidently absorbed, is carried off too rapidly to produce any lasting anesthesia. But with an absence of active hyperemia, we can depend absolutely on the influence of the cocain; we know how far it penetrates for a given class of operations; we can predict with certainty to what extent it will make them painless. Moreover, the experiments made on animals referred to the general anesthetic effect of cocain. That is not what we seek by its local influence in minor surgery; we want only its local effect, and that seems, as far as my experience goes, unalterable and always to be relied on.

It might be an interesting topic to bring out some of the experiences of the various members on the untoward toxic effects of the drugs. I have never seen serious physical symptoms produced in a fairly large experience in surgery of the nose and pharynx, while in the eye the toxic effects need not be expected, and are indeed rarely recorded in literature. But in the nose and pharynx I have used it in liberal quantities—20 per cent. solution—to the extent of perhaps ten to fifteen drops, applied on cotton, with the precaution, however, not to have the cotton dripping wet. In two instances I have found excessive talkativeness amounting almost to delirium, but there were no delusions present. The patients could be reasoned with, but they possessed an uncontrollable desire to talk. They could not overcome their feeling of fear, and while they were amenable to reason, still their actions were almost beyond their control. There were in these two cases no physical signs that gave the least alarm. The local faintness often seen in connection with nasal operations I attributed more to the mental influence of the operation itself than to the cocain.

After an interval of many years I have again seen three instances of slightly unpleasant effects from the drug in rapid succession, and it occurred in three young children on whom I operated in one week, for adenoids in the pharynx. The effect was simply uncontrollable talkativeness without depression. In these three instances I used cocain from the same bottle (Merck), having procured it from the druggist in our building. There were no physical symptoms which gave rise to any great alarm.

Dr. Christopher—What were the subsequent effects in those cases? Was there secondary depression?

Dr. Gradle—No.

Dr. W. S. Christopher—The reason I asked a question is because, on three occasions, cocain has been used on me. At one time talkativeness was seemingly not developed, but the second time it was to an extreme extent. The drug was used by a fellow practitioner, in a nasal operation. I was not aware of the condition. In both instances the depression which followed the use of the cocain in about two hours was the worst I ever experienced. So unpleasant were the results that subsequent operations on my nose—four of them—were made without the drug. Although there was pain, it was not to be compared with the former unpleasant effects.

On another occasion cocain was put into my eye on account of irritation from a foreign body. One drop of a 2 per cent. solution was employed. The result was paralysis of the muscles of accommodation, for a week, and complete dilatation of the pupil. The local effect was quite different from what atropin would give.

Dr. Norval H. Pierce—Dr. Peck has endeavored to direct our attention to the toxicity of cocain, and not so much to the fact that it is a reliable anesthetic, and I quite agree with him that it is capable of the most untoward manifestations. I have been unfortunate enough to see two cases of what I regarded as dangerous toxic effects from it. One, a plumber, of Scotch birth, who impressed me as being in vigorous health, came to my office with an elongated uvula. I used 5 per cent. solution on a pledget of cotton, making three applications at three different times. At the end of the last application he suddenly became pale. Diaphoresis set in with exophthalmos, and he slid out of the chair unconscious. I worked with him over half an hour, before he regained consciousness.

In another case I removed a polypus from a dentist's nose He presented the same symptoms after about the same amount of cocain was used. I do not use a solution without more or less apprehension; in fact, I never use it now in solution in my private practice, but employ the powder, and have never seen a case of poisoning from it. I use 25 per cent. cocain in sugar of milk. In hysteric women, innumerable manifestations may develop from the administration of a very slight amount of cocain; they exaggerate their heart and nervous symptoms, but I would regard these of particular moment. The two cases I have seen, however, of poisoning from an infinitesimal amount, have led me to regard it as a rather dangerous drug.

I am glad that there are other drugs coming into the market which are not nearly so dangerous, for instance, eucain "B," and nirvanin. I have used the latter in half a dozen cases of excision of the tonsils; the anesthesia has been quite satisfactory and no toxic effects have occurred in my cases, nor have any been reported. It is injected into the tissues, as it is not absorbed from the surface as in cocain.

Dr. Carl Beck—I have been much interested in the local untoward effects of cocain, as mentioned by the essayist. If I understood him correctly, it was a gangrene. Such effects must not be the result of the drug itself, but of ischemia, due to the injection. We all know that the injection is followed by a pathologic condition of the skin, which passes off in many instances, but it is deleterious after operations. If we make a small incision under cocain injection, we notice that very often the borders of an incised wound do not heal by primary union; there is frequent local swelling and sloughing of the tissues, especially of loose connective tissue, like the tissue of the eyelid or prepuce. If cocain or even water has been injected into such tissues, the consequence is a transitory ischemia or a permanent one with deleterious effect on the tissues. This has been proven by the use of the Esmarch bandage previous to the injection of cocain, an artificial ischemia having been produced by it.

In the *Centralblatt fur Chirurgie*, there has been quite a controversy recently as to the use of the Esmarch bandage previous to injections of cocain, and the beautiful results that are obtained by such anesthesia. If I remember rightly, it was Kofman of Odessa who first suggested it, and Professor Braun, Hofmeister and others have used this constriction on fingers and limbs to produce better anesthesia with cocain injections, and they have in almost every case observed poor healing. Some times there has been extensive gangrene after such constrictions and the use of cocain, so I think the Doctor is right when he states that it is not infection that has caused the gangrene of the gum, but it may be simply the injection of fluid which constricts the tissues, especially the tissues of the gum which, if constricted for a sufficient length of time, will produce necrobiosis and consequent necrosis of those tissues. But cocain also causes a contraction of vessels and ischemia. We do not exactly know in every case the untoward effect of the drug; it may be due to ischemic processes.

Dr. Norval H. Pierce—Ten or twelve years ago there was quite a controversy relative to the use of this drug in the eye for the removal of foreign bodies, etc. A number of cases of ulcer had occurred after its use, with sloughing of the conjunctiva. I would like to ask Dr. Gradle in regard to it.

Dr. Gradle—I do not recall that there were any accusations made of the untoward effects of cocain to that extent, but it is almost universal belief among ophthalmologists that the drying effect on the corneal epithelium is undesirable in corneal disease, and that the use of cocain should be restricted very much in cases of corneal ulcers; but that cocain directly should cause ulceration to follow infection by a foreign body, where without it the infection would not spread, I hardly think has been maintained.

Dr. William L. Baum—In genito-urinary work, untoward effects have been frequently noted in connection with the use of cocain. Quite a large proportion of genito-urinary surgeons have reported fatal cases from injections of the drug into the urethra. It is difficult to find out exactly how important a part the cocain injection plays in the individual case. I use practically no cocain at all in genito-urinary work. At one time, however, I employed it extensively. I have had two patients who suffered from symptoms supposed to be typical of cocain poisoning. In cases where the drug has not been used, mere passage of the sound, or its first introduction, is followed by identical symptoms: faintness with labored respiration, irregularity of the heart's action and the usual signs of shock. I have discontinued its use on account of its unpleasant aftereffect on the tissues locally. When cocain is used extensively in venereal work, infectious processes which follow its use are much more prolonged and decided in their action. In other words, the first effect is an almost anemic condition of the parts, followed by dilatation of the capillaries and by enormous edema. A more favorable culture-medium results. The question arises as to whether this be due to constriction of the neighboring parts, or to the vasodilator and vasoconstrictor nerves as the local influence. Probably the first effect is paralysis of the vasomotor dilator nerve, and the secondary one of entire inhibition of the opposite side. The operation for phimosis is one which is not well done with cocain as a local anesthetic.

Another feature which has attracted particular attention is that where local anesthesia has been used, or the anesthetic locally applied to the mucous membrane of a surface, and subsequently general anesthesia, almost invariably untoward effects occur, followed by general distressing symptoms. In fact an almost fatal case occurred in my office some years ago from this combination. In every instance where it has been employed I have had unpleasant effects. Perhaps Dr. Beck and others have had similar experiences. Dr. Pierce will remember a case in which local cocain anesthesia had been used for phimosis, with most unpleasant termination. I have seen no other very ill results, although many such have been reported in genito-urinary work.

Dr. William Cuthbertson—To prove the untoward effects which Dr. Baum has mentioned in genito-urinary surgery, I would mention the fact that there are quite a number of fatal cases on record where cocain has been used for local anesthesia in operations on the rectum. We all know that the rectal tissues, as well as the genito-urinary, are rather hard to anesthetize, and consequently it requires, in the majority of cases quite a free use of the drug in order to produce anesthesia. It is the general trend of surgical opinion that cocain is not a safe anesthetic for any operations on the rectum or genito-urinary apparatus.

So far as its local destructive effects are concerned, I have had some experience in its use in circumcisions, where rather an extensive sloughing has taken place afterward. I was at a loss to satisfactorily explain the cause of this local gangrene. I can readily account for it now by the condition of ischemia, which Dr. Beck has mentioned to-night.

Dr. Peck, in closing the discussion, said that in regard to the proposition as to the local anesthetic effects of cocain there can be no question. It is, as has been stated, a reliable local anesthetic: it will always produce anesthesia, as stated in the paper, when properly applied. So far as its action in this connection is concerned, there was no disagreement between those who discussed the paper and Dr. Peck. But the paper was intended to deal especially with the toxic properties of the drug and the systemic toxic symptoms following its use, especially by injection. If the drug is used locally, and not injected, no untoward symptoms will manifest themselves except in rare instances. He has used the drug extensively in his practice about the mouth, applying it locally, and rarely ever do untoward symptoms result. Anyone using it in operating on the nasal passages or throat, by injection, passing it directly into the circulation, will get a different experience.

Professor Halberg—I would like to ask Dr. Peck if the oleate of cocain has been used to any great extent. I remember to have seen some reference years ago that the oleate would perhaps be a valuable agent for producing local anesthesia, without producing any untoward symptoms, probably due to the fact that it would give a more uniform absorption, and at the same time perhaps not be so penetrating as the watery solutions.

Dr. Peck—I can speak only for the dental profession in answering the question, but the oleate of cocain, to my knowledge, has never been used in dental practice.

Philadelphia College of Physicians.

Section on Surgery, Oct. 13, 1899.

RELATION BETWEEN PROSTATIC ABSCESS AND POSTERIOR URETHRITIS, WITH TREATMENT.

Dr. Ramon Guiteras, New York City, presented this paper. He considers posterior urethritis nearly always due to extension backward of an anterior urethritis, as in gonorrhea. The most prominent symptoms are: frequent urination, tenesmus in the deep urethra and rectum, especially observed after micturition, with a slight amount of pus in the deposit. Usually there is a sense of pain in the perineum. Other symptoms are constipation, slight fever and general depression. Many cases of supposed posterior urethritis are now known to be due to inflammation of the seminal vesicles. It is best to make a rectal examination to find whether or not there is inflammation of the adnexa present. The complications of posterior urethritis are: prostatic abscess, prostatitis, congestion, senile atrophy.

Congestion of this part meant a hyperemia which may eventually lead to parenchymatous inflammation or abscess giving rising to chills, sweats, considerable fever, while the rectal examination detects presence of the enlargement. Abscess in these parts usually breaks into the urethra or rectum, and if in the latter, after defecation there will be a considerable amount of discharge giving rise to a suspicion of colitis. In one patient treated, an abscess present, an operation was decided on, but at the examination the abscess ruptured into the urethra, the abscess sac subsided quickly and the operation was not necessary. Inflammation of the seminal vesicles is usually detected by examination per rectum, when there is felt small nodules following the course of these ducts, the follicles and stroma of which are inflamed. Rectal symptoms of this condition are: a sense of foreign body in rectum, fever, and rectal tenesmus.

In prostatic abscess the gland will be found to be considerably enlarged. In this latter condition a fatal termination is rare, but may occur from septic phlebitis. In one instance he had known death to result from septic pneumonia. In extensive involvement of this organ the parts will feel flat and doughy and pit on pressure. The destructive process in abscess of the prostate means tissue destruction, and frequently will be found to exist small follicular abscesses which break into the urethra, leaving no trace behind.

Treatment of posterior urethritis resolves itself into both local and general methods. The bowels should be kept well open. Salines render the urine less irritating. Antispasmodics, such as hyoscyamus, are useful. Urethral injections of permanganate of potash and nitrate are also valuable. Diuretics, such as sweet spirits of nitre and acetate of potash, may also be used, as well as rectal suppositories. Although quinin is discountenanced, he has given it with benefit. Hot sitz baths, two or three times daily, and rectal irrigations of water at 110-115 F. may do good. Abscesses may be incised through should however be remembered that incisions in this region the anterior rectal wall, a semilunar incision being best. It are dangerous.

REMARKS ON POSTERIOR URETHRITIS.

Dr. Orville Horwitz read a paper on this subject and spoke of the interest which the subject of gonorrhea should command by the general practitioner, owing to its frequency and its dangerous complications. When the posterior urethra is involved, the condition is a dangerous one. When the anterior urethra is the seat of inflammation, the complications would be herpes, chordee, etc., and when the posterior urethra, orchitis, epididymitis, cystitis and inflammation of the kidney. Gonorrhea is just as prevalent now as it has ever been, and the statement of Ricord that 80 per cent. of the adult males in large cities are affected by this disease shows its gravity.

In the treatment of follicular urethritis he recommends the passage of bougies, three times a week, together with gentle massage over the parts while the instrument is in place. Astringent injections may be of benefit. He considers protargol of value, or a local application of copper, or nitrate of silver applied through an endoscope.

If the bladder be involved, irrigation should be done, but indiscriminate irrigation of the bladder in these cases often does harm. Copaiba or cubebs often do nothing but injure the appetite.

TREATMENT OF GONORRHEAL RHEUMATISM.

Dr. Charles H. Frazier, in his paper on this topic, said that to properly treat this condition one must necessarily know the essential pathology of the disease in its different forms. In some cases of what is considered gonorrheal urethritis there is infection by the gonococci alone, associated with other micro-organisms. In this disease we find: hydrops articuli, empyema of the joint, and phlegmon. In the first condition only clear fluid occurs around the joint. In empyema there is a mixed infection.

Treatment should be directed toward relief of pain and loss of function. Relief of pain can often be accomplished by immobilization of the joint and by application of heat or cold. After subsidence of the acute symptoms, the patient should be kept in bed, and on the affected part should be applied a rubber bandage or adhesive plaster. From the fact that the parts should be frequently exposed, the rubber bandage has its advantages. Massage does good. In cases of empyema of the joint, incision and free drainage should be done. Should phlegmon lead to ankylosis of a fibrinous or bony character, the application of a plaster cast, or the inunction of mercurial or belladonna ointment may be of advantage.

Dr. J. H. Brinton, in the discussion of the papers, spoke of the treatment of urethritis, which years ago had been a very active one, somewhat later more soothing, but now we are again hearing of the active method again being employed. He desired to know the strength of the protargol used by Dr. Horwitz, and whether any bad effects had been observed.

Dr. Horwitz replied that in acute cases he had used the drug in the strength of a .5 per cent. solution, and in chronic cases of posterior urethritis, in 2 per cent. solution, and had never seen any bad effects following its use.

TREATMENT OF URETHRITIS IN THE FEMALE.

Dr. George Erety Shoemaker then read a paper on this subject. This condition he considers a formidable one. The seats of infection vary, and it must be combated in its strongholds. In acute stages rest and the administration of purgatives should be employed. In an examination made of prostitutes, one writer has stated that the urethra was infected in practically all cases. In the early stages the parts should be mopped off with a weak carbolic creolin or permanganate of potash solution.

Injections into the female urethra should be done with care, on account of its probability of reaching the bladder. In this connection instruments should be used guardedly. Vaginal douches are of benefit, after which the vaginal canal may be packed with gauze.

New York State Medical Association.

New York City, Oct. 24-26, 1899.

(Concluded from page 1165.)

ADVANCE OF OUR KNOWLEDGE OF TYPHOID FEVER.

Dr. E. G. Janeway, New York City, detailed some interesting cases illustrative of the different types and complications sometimes encountered. He especially warned practitioners to be ever on their guard, when treating typhoid, for the sudden and often disastrous development of a suicidal tendency.

Dr. William H. Thomson presented a study of the "Statistics of Typhoid at the Roosevelt Hospital for the Past Ten Years." The total number of cases was 368, and the total number of deaths, 25 or 6.8 per cent. Of the fatal cases, 56 per cent. succumbed within a week after their admission, so that but little time had been given to secure the benefits of treatment. Diarrhea and tympanites had been very infrequent, and this he was inclined to attribute to discarding the old beef tea and using an exclusive diet of equal parts of milk and lime-water. In 321 of the cases there had been no delirium. Relapses occurred in 15 per cent. He favored giving a purge of calomel and jalap every third night up to the end of the second week, and the free use of pepsin and bismuth throughout the disease. Cool baths were given whenever the temperature had reached 103 F., and there seemed to be less depression where the artificial Nauheim baths had been employed.

Dr. Reginald Fitz, Boston, gave a historic sketch of the principal methods of treatment that had been in vogue in the Massachusetts General Hospital during the past fifty years. Notwithstanding the varying modes of treatment and diet employed, he concluded from this study: 1, that the treatment of typhoid fever does not now materially differ from the principles laid down as long ago as 1839; 2, that the average mortality had not changed since the days of active purgation and venesection; 3, that intestinal hemorrhages and relapses are just as frequent now as at any previous time, and 4, that considerable latitude in the matter of diet is not only permissible, but may possibly be of benefit.

Dr. A. A. Smith, New York City, presented some phases of typhoid as observed in the Bellevue Hospital. This study was based on 87 cases. The mortality had been 9.6 per cent. Chills and diarrhea had each been noted in 57 per cent., and relapses in 9 per cent. In 59 cases examined for the Widal and diazo reactions, the former had been present in 82 and the latter in 74 per cent. He is very careful about the resumption of solid food, and directs that it be not given in his wards until the temperature has remained at the normal for a week or ten days.

Dr. A. Jacobi spoke of the disease as seen in children, and particularly regarding its management. He advises using internally bismuth, sulphocarbolate of zinc and salol, weak hydrochloric acid water as a grateful potion, and for the control of hyperpyrexia, baths chiefly, though antipyrin is occasionally permissible, and is the safest of the antipyretic drugs.

Dr. de Lancey Rochester, Buffalo, N. Y., contributed a short paper on the "Local, Non-Surgical Treatment of the Intestinal Tract in Typhoid Fever," in which he especially advocated the intermittent use of calomel and repeated colonic flushings.

Dr. W. W. Keen, Philadelphia, discussed the "Treatment of Perforation of the Bowel in Typhoid Fever." This paper will appear in the Journal.

Dr. Alvin A. Hubbell, Buffalo, briefly considered the eye complications apt to be met with in connection with typhoid.

TWO CASES OF LARGE RETAINED HERNIA.

Dr. H. O. Marcy, Boston, reported these two cases, which were intended to convey a warning regarding the danger arising from interference with the action of the heart by excessive intra-abdominal pressure.

Dr. W. B. de Garmo suggested that this real danger could be minimized by prolonged rest in bed, efforts being made at the same time to return as much of the hernia as possible.

ADMINISTRATION OF NITROUS OXID WITH AIR OR WITH OXYGEN.

Dr. Thomas L. Bennett, New York City, contributed this paper. He said that the admixture of oxygen with nitrous oxid in definite proportions, such as was possible with the Hewitt apparatus, gave an ideal combination, but one requiring much experience and care in its use in order to give satisfactory results. This form of anesthesia was particularly useful in tooth extractions, opening abscesses, curettings, dilation of the anal sphincter and breaking up adhesions in joints, and where ether and chloroform were inadvisable.

SPHERE OF DRAINAGE IN SURGERY OF APPENDIX.

Dr. William S. MacLaren, Litchfield, Conn., read this paper. He said that cases of suppuration about the appendix may be conveniently divided into two classes, viz.: 1, those in which the abscess is localized by limiting adhesions; 2, those in which the pus has entered the general abdominal cavity. The cases of the first class should be treated like abscesses anywhere else, but in those of the second class he maintained that drainage is an impossibility. Both the glass tube and the gauze strips interfere with recovery by irritating the surface of the already inflamed peritoneum. In this respect gauze drainage is worse than that with tubes. The treatment should consist in a thorough washing out of the abdominal cavity with saline solution, the introduction of peroxid of hydrogen and the final filling of the cavity with saline solution just before complete closure of the abdominal wound. By placing, in the peritoneal cavity, a quantity of fluid requiring four or five days for its absorption, the infective material will be diffused and returned little by little to the surface during absorption of the fluid, thus accomplishing the desired purpose without markedly increasing the original amount of infecting material. Again, this infecting material is presented to a much larger surface of peritoneum, thus favoring its absorption. He reported two severe suppurative cases in which this method of treatment had been successfully employed, thus demonstrating its practical as well as its theoretic value.

APPENDICITIS: TREATMENT FROM MEDICAL AND SURGICAL STANDPOINT.

Dr. Thomas B. Skully, Rome, N.Y., in this paper advised the use of calomel and soda and of high enemas in the early stages, together with the hypodermic administration of morphia and strychnia, with the object of allaying the nervous irritability without arresting peristalsis or locking up the secretions. If, however, evidence of improvement is lacking at the end of twenty-four hours, a surgeon should be called in.

CHOLANGIOSTOMY.

Dr. B. Merrill Ricketts, Cincinnati, Ohio, reported in this paper two successful cases of operation, and pointed out that this might be required in the following conditions: 1, when the gall-bladder has contracted down on concretions; 2, when it is desirable to explore an atrophied biliary cyst in a case where it could not be sutured in the wound; 3, when, owing to the great size of the hepatic lobe, the gall-bladder can not be brought into the abdominal incision; 4, when concretions have escaped from the biliary tract into the substance of the liver; 5, when such concretions have become encysted or impacted in the intrahepatic ducts; 6, when the common and cystic ducts are occluded by a new growth; 7, when it is found that a hepatic abscess has ruptured into the biliary tract, filling the gall-bladder with pus that can not easily escape through the usual channel.

DIFFERENTIAL DIAGNOSIS BETWEEN CHRONIC JOINT DISEASE AND TRAUMATIC NEUROSIS.

Dr. Reginald H. Sayre, New York City, summarized his views on this subject about as follows: 1. Neurosis is apt to follow injury more quickly than joint disease. 2. The temperature is usually lower in a neurosis and elevated in an arthritis. 3. The local temperature is apt to be much lower in a neurosis than in disease of a joint. 4. Atrophy is much more rapid after nerve injury. 5. True reflex muscular spasm is only present in joint disease.

SUBNORMAL TEMPERATURE.

Dr. Leroy J. Brooks, Norwich, N. Y., suggested in this communication the possibility of determining the near approach of melancholia, epilepsy and dipsomania by a persistently subnormal temperature.

Dr. E. D. Fisher, New York City, said that while a subnormal temperature is often noted in patients suffering from melancholia, dementia or stuporous insanity, as a result of the lack of muscular activity, the general experience of those having the care of insane persons does not support the view that such thermometric observations would have any practical value in predicting relapses or recurrent attacks of certain nervous diseases.

ETIOLOGIC RELATION OF AUTOINFECTION AND AUTOINTOXICATION TO DISEASES OF THE EYE.

Dr. Alvin A. Hubbell, Buffalo, N. Y., discussed this subject, and expressed the opinion that retinitis and optic neuritis were distinctly toxic affections.

EFFECTS OF CERTAIN OCCUPATIONS IN THE PHARYNX.

Dr. Seymour Oppenheimer, New York City, read this paper, based on an analytic study of fifty cases. He pointed out that the younger one engaged in an occupation likely to cause irritation by the inhalation of dust and chemical vapors, the more severely would one suffer, and that the same is true of those having previously certain abnormal states of the upper air-passages.

TOPICAL APPLICATION OF IODOFORM IN TREATMENT OF TUBERCULAR PERITONITIS.

Dr. Zera J. Lusk, Warsaw, N. Y., described in this paper the success that had attended his use of "iodoform poultices."

EPIDEMIC OF INTERCOSTAL NEURALGIA.

Dr. Thomas F. Reilly, New York City, described a series of fourteen cases, seen within five weeks, and characterized by recurrent intercostal neuralgia, chilliness, fever, constipation, general pruritus, and the occurrence of a herpetic eruption, sometimes along the course of the intercostals and sometimes on the lips. A similar epidemic had recently been reported from a town in Germany.

SUPPURATIVE ETHMOIDITIS AND ITS TREATMENT.

Dr. Frank S. Milbury, Brooklyn, N. Y., stated that in his cases the antrum had been implicated in 50 per cent., but necrosis had been rare. The treatment should consist in proper cleansing of the parts and the removal of all obstruction to free drainage.

Dr. Francis J. Quinlan insisted on the great importance of the respiratory function of the nose.

Chicago Medical Society.

Nov. 1, 1899.

VACCINATION.

Dr. A. M. Handshaw presented a paper on this subject, in which she stated that as a step in the evolution of vaccination the bone point used as a scarifier and carrier of bovine virus and other things is a definite one, furnishing more typical results as to protection with less of suffering in its wake. Reference was made to Welcker's glycerinated bovine virus and sterilized needle, introduced to the profession in 1894. The Chicago Health Department adopted this system in July, 1895, the claim being immunity from sepsis and smallpox. She finds that vaccination in the negro is more difficult, on account of the epidermis being thicker and harder to scarify, and less frequently resulting in a typical vaccination, it being necessary to repeat the operation in many instances. The course of a revaccination in her experience has been very irregular, especially in the adolescent. The history of an abnormal or atypical course of vaccinia is varied, even when using aseptic lymph, the patient furnishing the nidus.

In regard to immunity to vaccinia, she has found a few persistently resistant to a successful operation, the greatest number of times that the operation has been performed on a patient to her knowledge being nine, four by the family physician, and five times by herself, the ninth operation resulting in a typical cicatrix. Dr. H. Spalding, of the Chicago Health Department, has reported a case in which ten attempts were necessary to obtain one success. The late Dr. E. Garrott found thirteen attempts to be necessary for one satisfactory result, and is reported to have said that there is no immunity to cowpox.

The speaker referred to the laws of the different states with reference to vaccination. Of eleven states and territories of the Pacific group, Colorado has a state law giving health boards authority to make provision for vaccination.

EYES AND EARS OF EMPLOYEES OF TRANSPORTATION COMPANIES.

Dr. Frank Allport followed with a paper with this title, to be printed in the Journal.

Hartford County Medical Association.

Hartford, Conn., Oct. 28, 1899.

CITY AND COUNTRY PRACTICE.

Dr. Jos. A. Coogan, Windsor Locks, president, opened the meeting with an informal talk in which he pointed out some of the advantages of country practice. He would urge young men, unless family assistance or other powers assure city success, to begin practice in the country. He spoke particularly of the fine work of the specialists in the cities and had a word of rebuke for the pretensions of "Christian Science" and similar sects, founded on ignorance or superstition.

CHRONIC INDIGESTION.

Dr. Walter G. Murphy, East Hartford, read a paper on this subject, and reviewed the processes of digestion, speaking also of indigestion. He referred to the use of the stomach-tube, described the test meal and certain tests applied to it, and briefly related the history of a case under his care. In relation to diet, he disbelieves in restriction to such a degree as to increase the natural tendency of patients to worry about themselves. Diet should be nourishing and should be in some cases more liberal than is frequently permitted. In no other disease is the ingenuity of the physician taxed as much as in chronic catarrh.

Resolutions were passed on the death of Dr. James Campbell (see Journal, October 28, p. 1115).

Detroit Medical and Library Association.

Oct. 16, 1899.

STUDY OF MYCOSIS FUNGOIDES.

Dr. A. P. Biddle presented a patient with this disease, the history and condition being as follows: Mr. H., 32 years old, whose previous family and personal history was negative, had been treated for more than two years by various physicians, for psoriasis. At the time Dr. Biddle saw him, the tumor stage had already developed, so that psoriasis was easily excluded, although there was some resemblance to that in the cutaneous eruption, but differing from it in that the infiltration was not so deep, the individual patch not so red, the margin not so well defined, the scales not so white, and the itching decidedly more intense. The disease had begun four years before, by an excessive itching behind the ankle bones, afterward gradually extending over the other portions of the body, with a hyperemic and scaly condition of the skin followed by subcutaneous nodules. Oozing was almost constant. After three years of this condition tumors began to form, varying from one to three inches in diameter. They were firm, rounded, more or less freely movable, ulcerated on the surface with free oozing of a watery, offensive, adhesive fluid.

The treatment in the case consisted in the removal of the tumors under Schleich's method of anesthesia. It was noticed that when a portion of one of the tumors of the neck was removed for examination, the remaining portion gradually became absorbed. Internally Fowler's solution was given, and the body was bathed daily with a 1 to 5000 solution of bichlorid. So far the tumors have not shown signs of returning and the patient's general appearance has improved.

Microscopic examination of the tumors removed shows considerable thickening of the epidermis, with large prolongations of the rete Malpighii into the cutis. The process consists of an infiltration of small round cells and a severe lymphocytosis at the bases of the papillæ in the connective tissue, also about the glands and hair follicles. In the deeper tissues of the derma a focus of round cells is found surrounding a blood-vessel. The irregular collection of cells are massed in a delicate framework of fibrillar connective tissue, which, according to some authors—Paltauf, Kaposi—consists of bundles of cutis-fibers pressed asunder.

Cincinnati Society of Original Research.

EOSINOPHILIA IN DERMATITIS HERPETIFORMIS (DUHRING.)

Dr. Mark A. Brown read a paper with this title. The patient, a man, had had his affection for over twenty-five years. Examination of his blood had demonstrated a normal red count and a slight leucocytosis; the eosinophilic cells had increased to between 32 and 44 per cent. The only other instance of this nature has been reported by Cabot, and the eosinophiles in his case numbered but 19 per cent.

POLYCYSTIC DISEASE OF BREAST.

Dr. Albert Freiberg read a paper on this subject, maintaining that there is a condition of this kind neither inflammatory adenomatous nor malignant. Many photomicrographs were presented illustrating the change.

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SATURDAY, NOVEMBER 11, 1899.

EXPERIMENTAL LESIONS OF NERVE-CELLS.

During the past few years many investigations have been made, especially by means of Nissl's stain, to determine the changes induced in nerve-cells by various poisons and toxins. The methods of research have been various. Of the great list of toxic agents employed, lead, arsenic, silver nitrate, phosphorus, malonnitril, strychnin, and the toxins of tetanus, rabies and diphtheria may be mentioned as the most important. The most prominent variation from the normal structure in all these cases is chromatolysis, i. e., the solution of the chromophile bodies described by Nissl. The significance of this most wide-spread change is still a disputed question. According to Lugaro[1], alterations in the chromatic part of the nerve-cell represent a reaction of the nerve-cell to a disturbing force, and are reparable, a view which is supported by the investigations of Nissl, Nicholas[2], Goldscheider and Flatau[3] and others, who have produced chromatolysis experimentally, and then by antagonistic treatment have been able to restore the cells to their normal condition. Nichols worked with typhoid inoculations, Goldscheider and Flatau with malonnitril poisoning, counteracted by injections of hyposulphite of soda. Lugaro believes that the functional activity of the cell is dependent on its achromatic structure, a position based on the fact that the nerve-cells which have lost this part of their structure have rarely or never been seen to recover.

Lesions characteristic of any special intoxication have practically never been found. Lugaro found fatty degeneration in nerve-cells in arsenical poisoning, but Elkins and Middlemass[4], as far back as 1891, have described the same condition in phosphorus poisoning. Donaggio[5], has noticed the production of deep-stained—pyknomorphous—cells in silver nitrate poisoning, while Goldscheider and Flatau have observed a disintegration of the Nissl bodies, with deep staining of the chromatin of the nucleus in malonnitril poisoning. Strychnin and the toxin of tetanus produce, according to Goldscheider and Flatau, similar changes in the motor spinal ganglion cells. These changes are quite characteristic, consisting as they do in an increase in the size, and pallor of the neucleolus, and increase in the size, and crumbling of the Nissl bodies, the whole finally ending in a fine, granular disintegration of the Nissl bodies, together with an enlargement of the whole cell. Marinesco[6] describes the nerve-cell of tetanus poisoning as consisting of two parts: the first of these corresponds to that portion of the nerve-cell on the side of which arises the axis-cylinder process, and is darkly stained, showing scarcely any normal structure; the other part presents a normal appearance, and the protoplasmic processes arising from it are normal. Variations in the achromatic part have been noted under various pathologic conditions, but their exact nature is still unknown.

The changes produced in nerve-cells by other experimental lesions have many points of interest. The observation of Pernice and Scagliosi[7], that there is a complete disappearance of the chromatin in the nerve-cell of fowls deprived of water tends to support the view held by many, that the chromatic substance of nerve-cells represents a storage of food-stuffs. Corrado[8] killed dogs by electric shocks, and noted notchings, lacerations, mutilations and erosion of the nerve-cells.

Ewing[9] has also added much to the pathology of the nerve-cells by his recent, comprehensive study of the subject. Maltschanoff[10] affirms that the gonococcus toxin produces chromatolysis and causes vacuolation of the spinal and cerebral ganglion cells of white mice, guinea-pigs and rabbits. In more chronic intoxications there resulted a degeneration of the nerves, of the posterior nerve roots and of the posterior columns of the spinal cord.

The changes in the nuclei of nerve-cells, as described by various authors, consist of swelling, distortion, erosion, atrophy, loss of chromatic substance, displacement, etc. Catterina[11] found atrophy of the nucleus combined with degeneration into a homogeneous mass in a dog killed with morphin. Homogeneous degeneration of the nucleus has also been noted by Gabbi[12] in experimental urine intoxication. Daddi[13] describes erosion and loss of sharp contour of the nucleus in experimentally induced insomnia, but he describes similar changes in chronic cocain poisoning[14]. The total disappearance of the nucleus has been noted by Montali[15], who produced death in animals by rapid mechanical asphyxiation. It can be noticed that none of these lesions are characteristic of any special pathologic condition.

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[1] Riv. di patol. nerv. e ment., 1898.

[2] Jour. Exp. Med., 1899, iv, 189.

[3] Normale u. Path. Anat. d. Nervenzellen auf Grund der Neueren Forschungen, Berlin, 1898.

[4] British Med. Jour., Dec. 19, 1891.

[5] Riv. sperimentale di freniatria, 1898.

[6] Pathologie de la cellule nerveuse, Paris, 1897.

[7] Il Pisani, 1895.

[8] Atti della R. accad. Medico-chirurg. di Napoli, Seduta del 27 Marzo, 1898.

[9] Arch. of Neurol. and Psycopath., 1898, vol. i, No. 3.

[10] Munch. Med. Woch., Aug. 1, 1899; JOURNAL, August 26. p. 542.

[11] Riv. di patol, mentale e nervosa 1898.

The great amount of experimental investigation—only a small portion has been mentioned—which has been and is given to this field of pathologic histology paves the way for a more comprehensive view of the lesions of human nerve-cells. The great difficulty in the way of conclusive results from the study of human material lies in the delicacy of the technic, which requires absolutely fresh material to begin with; in the second place the relatively simple conditions of the experiment are rarely met with in human pathology. Mixed infections and mixed intoxications complicate matters, and lesions discovered in the nerve-cells are consequently hard to interpret correctly. And the difficulties of pure morphologic studies foreshadow the still greater and inherent difficulties of investigation into the mechanics and the chemistry of nervous structures.

AN ADVANCE IN PSYCHO-PATHOLOGIC STUDY.

It has passed into a proverb, that any one studying the science of medicine, as presented in any one phase of disease, must collect all the collateral knowledge possible in allied sciences, in order to view his own subject in a sound light. To a lack of this plan is due much of the immature and faulty conclusions of some clinicians who specialize in medicine. Probably the class of physicians engaged in the care and treatment of the insane have been much less open to this criticism than many other workers; which is due in no small part to the natural conservatism of their work. However, this tendency should not stand in the way of real progress, as it seems to be in danger of doing at present, in this country. A special plea against this possibility has recently been made by Dr. Van Gieson, Director of the New York State Pathological Institute, calling attention to the necessity of correlating the sciences in the study of psychiatry. Although the work of the Institute has been most praiseworthy, yet such a laboratory establishment should have closer connection with, and be an integral part of, a hospital for the acute psychoses, in order that careful clinical work may go hand in hand with psycho-pathology. The addition of bedside study to laboratory investigation of mental diseases, is essential to form a proper judgment and equipoise to neuropathologic research.

It must be admitted that psychiatry on its clinical side has not as yet received much aid from pathoanatomical study. We should investigate mental diseases by psycho-physical methods, as is so worthily represented by the psychologic school of Wundt, and put in practice in Kræpelin's clinic.

Observations on the chronic insane, especially in dementia cases, are unreliable and almost impossible of accurate record, therefore a clinic on mental diseases, in conjunction with a pathologic laboratory, should be on selected cases of acute psychoses, such as mild deliriums and hallucinatory states, and the so-called subconscious automatic conditions seen in the epilepsies; along such psychologic lines of work, psychiatric study ought to yield just as practical results as have been already obtained in neuro-pathology.

A short description of the psychiatric clinic at Giessen is given by Dr. Peterson[1], but the general principle on this research work at Giessen is detailed at careful length by the director of the clinic, Dr. Sommer[2]. Instructive and methodic lines of sensori-motor examinations are outlined. Although the necessary apparatus, on account of its expense and because of the time necessary for pursuing the work, would render it impracticable in all asylums in this country; yet it could be easily established in the larger cities, where it would be of great value for clinical instruction in medical schools. For instance, a stereoscopic cinematographic presentation of the convulsive phenomena of epilepsy, would be of the greatest value. It appears that such speculative opportunities in clinical teaching are in a fair way of realization soon, according to Dr. Sommer. These clinical representations, coupled with the use of the phonograph in the work, will place us but a short step from a new era in clinical instruction in psychiatry. From the very nature of the disease, exhibition of insane patients in clinics has always been inconvenient and unsatisfactory.

Dr. Sommer has already been able to place psychophysical methods on the insane beyond the pioneer stage. He makes many helpful and practical suggestions in his treatise, for those contemplating studies of this kind on the insane, and presents many written and pictorial illustrations of his studies.

Finally, the proceedings of a congress, where members have worked along harmonious lines by psychophysical methods in mental diseases, as has been suggested, will be an inspiration to all interested in the advance of such research.

MEDICAL INSPECTION OF PUPILS.

The unusual number of cases of scarlet fever, diphtheria and other contagious diseases in this city—and these evidently increasing—make it probable that the Board of Education of Chicago will adopt the proposal of Dr. Christopher for the employment of fifty medical inspectors to examine public school pupils who are absent four days or more. The diseases mentioned are naturally spread more from the large congregation of children in schools than in any other way, and if this source of contagion can be eliminated by some such regulation and preventive measures as proposed, the plan ought to have the hearty support of all. That the present loose regulations are a failure is too evident to need even a mention. There are several causes for this: One is the prevalence of the faith cure craze under various names. Those who follow these fads, not recognizing the existence of disease, necessarily do not recognize the possibility of its spreading. In many cases such diseases as diphtheria and scarlet fever are liable to be of a mild form, barely severe enough to keep the children away from school, and yet be just as liable to spread the disease as a more virulent form. These cases are not seen by a physician. Physicians themselves are too prone to give way to the pleadings of the parents of the child and write a certificate of health before danger of contagion has passed. The plan proposed seems to us to be feasible, of practical utility, and can not but result in aiding the prevention of the spread of diseases among children.

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[12] Rif. Med., 1898, ii.

[13] Riv. di patol mentale e nervosa, 1898.

[14] La clin. moderna, 1898.

[15] Riv. di med. legale, 1898.

[1] Journal of Nervous and Mental Diseases, October, p. 654.

[2] Lehrbuch der Psycopathologischen Untersuchungs Methoden.

From the fact that the school board will have control of the matter, if it is put in force, we may hope that the physicians employed will be selected for their capability rather than for their political "pull." As all appointments made by the board are made on the civil service plan, we need not fear on this account.

Evidently the only obstacle now in the way is the question of the legal right to use the school funds for the purpose, and on this point the board is hesitating. If such legal obstacles exist, then the sooner they are removed the better. To say that the board shall not use its funds to protect the health of the pupils is absurd, for this is being done, one way or another, continually. Further, if such a decision should be rendered, it would do away with the physical culture department, and many other important adjuncts to school life, which certainly can not be called "educational."

One of the newspapers is objecting to the proposal, claiming that it is a "scheme to give a lot of doctors a job." As there are 300 public schools in the city of Chicago, and 240,000 pupils, and only fifty medical inspectors are to be employed, these will certainly not have a very "soft job" of it, in spite of the fact that each is to be paid the munificent sum of $400 per school year. The medical profession will be the loser, for preventing the spread of disease certainly makes less work for the medical men.

THE CORNELL TRAGEDY.

The recent death of a Cornell student in pre-initiation performances of a students' secret society calls for some notice. It seems to be the practice in a few of our educational institutions to permit or even tacitly encourage some idiotic customs, on the ground, perhaps, that they give a vent to the exuberance of youth, which might possibly otherwise reveal itself in still more objectionable ways. There may be some truth in this, but, if in this way it becomes homicidal, even without vicious intent, it is hard to say that it is a satisfactory alternative for anything worse. As a psychologic study the half-grown boy is a serious as well as a comic subject, and if he could see himself as others see him, at least occasionally, it might be a useful adjunct to his education. When a tragedy like the one at Cornell occurs, it ought to bring a few at least face to face with themselves and to the realization that they are making a sorry exhibition of themselves to gods and men. These particular developments appear to be most evident in the larger universities, which to a certain extent seem to breed an undergraduate conceit in direct proportion to their size and general reputation. "Knowledge comes but wisdom lingers" in our colleges altogether too much.

IS THERE AN OXYGEN HABIT?

According to a Philadelphia reporter, a new drug habit, if it can be so called, has originated and become popular, in that city and in New York. Oxygen inhalation has become, according to him, a fashionable dissipation, and the streets in front of the "oxygen shops" are crowded with the carriages of the wealthy patrons. As yet the poor have not learned of or acquired the taste; it is confined to the well-to-do and the rich. Home treatment is declared to be still more common, and scores of wagons, he says are kept busy carrying the "oxygen pipes" from house to house. So far as we have seen, this new form of stimulation has escaped medical notice, but if there is anything in the report, and it is not entirely an invention of some sensation-mongering newspaper man, it is certainly worthy of attention. We have not seen any notice of it in the more western or central cities. The story is respectfully referred for investigation to our esteemed New York and Philadelphia contemporaries.

ALCOHOL AS A BEVERAGE.

A rather curious paper was read before the late meeting of the New York State Medical Association, the author taking the position that alcoholic drinks are a good thing as a beverage and that the recognized evils from whisky are due to drinking it when it is still too young. He says: "It may here be stated, without likelihood of contradiction, that if whisky was sold in its proper state two-thirds of the crimes and four-fifths of the insanity charged to the account of alcohol would disappear from the indictment, so bulky and terrible, that stands against it on the statute books of society." After alluding to the often quoted experiments of Atwater, he goes on to say that "alcohol in the banquet hall, in the beer garden and at the domestic hearth makes hundreds merry for every ten it makes miserable, and for every one it destroys." The cause of alcohol will scarcely be helped by an argument that admits the terrible indictment against it "on the statute books of society," or that estimates the merry-making of a hundred as justifying the misery of ten and the destruction of one.

The writer of the paper, in such statements fairly admits himself out of court. His closing advice, however, which included: "to never drink whisky before delivering a temperance lecture or preaching a sermon," almost suggests that the rest of the paper may have been largely a joke, though not a very good one.

EQUESTRIENNE REFORMS.

The Cleveland Health Protective Association, a local organization for the improvement of the physical condition of the citizens, has inaugurated a crusade against the side-saddle and the long riding-habit for horsewomen. The movement is pressed, as it is stated, for the benefit of both women and horses who suffer alike from the evils induced by the long-prevalent fashion. While one can not speak for the horse, some of the dangers of the side-saddle to the rider are obvious, and there is no good reason apparent why a woman can not ride astride as well as, if not better than, a man, aside from the embarrassment of the conventional skirt. Now that the bicycle has solved the question per se, it is not at all impossible that the change regarding horseback riding may yet be accomplished. We see no hygienic or physical difficulties in its way. However, we believe that there are more desirable reforms in this line: the "dear" slaying corset, and the long dragging walking skirt, for instance, the latter unhealthy in more ways than one.

"A NEW CURE FOR INSANITY."

It seems a wonder that with all the systems of medicine, and all of the methods of treatment exploited, and all of the cures discovered, disease has any reason whatever for existence. Osteopathy appears to be in articulo mortis, but its last gasp is attended with an ominous rattle. From Centreville, Iowa, comes the startling information that a local operator of that fad has made the discovery that about two-thirds of the cases of insanity can be cured by resetting a bone in the patient's neck. One must, however, restrain his exuberance at this announcement, and not be led to hope that insanity will at once be removed from the face of the earth, because it is only reasonable to expect that in at least a small proportion of the cases it may not be possible to effect the osseous readjustment on which cure is said to depend. The limitation has already been made that not *all* cases of insanity are dependent on this peculiar dislocation, or it may be found that they are not attributable to any *one* cause. But we live and learn.

A NOVEL MALPRACTICE SUIT.

At the last session of the Illinois legislature, as may perhaps be remembered by some of the readers of the Journal, a bill was introduced to make it a punishable offense for a physician to fail to respond to a call. It was claimed to be a measure that humanity demanded, and that physicians, who were as a class benefitted by legislation, ought to be compelled to go whenever and wherever called. The bill failed to pass, with a host of other equally idiotic ones, such as have to be killed off in committee in every state legislature, but it would seem that in Indiana some lawyer has a notion that a physician's services are *nolens volens,* a common law right of whoever demands them and offers a fee. A suit has, it is reported, been brought against a Crawfordsville practitioner for refusing to attend a case, $10,000 damages being claimed. The plaintiff claims that the doctor is responsible for the death of his wife and child. The despatch says there is no record of a similar case, and that "the outcome will be noted with peculiar interest by the medical fraternity." It will be very remarkable if the outcome troubles the profession much, and the lawyer who introduces the suit must have curious ideas of the rights of individuals as to the disposition of their services under the law. The case, however, illustrates some of the notions of the laity in regard to our profession, and the endeavor to add a new variety of malpractice to those already known. If a doctor is to be held responsible for not having anything to do with cases that result unfortunately it is hard telling for what he is not responsible.

DR. WYETH'S LIFE OF FORREST.

Dr. John A. Wyeth has won fresh laurels with his "Life of General Nathan Bedford Forrest[1]," just published. His ability as a writer has been acknowledged before, but this book will entitle him to still greater honors. The subject is one on which Dr. Wyeth has been working for years, not a little of the contents of the volume having appeared as magazine articles from time to time. The work has been, without doubt, a labor of love, his admiration for General Forrest as a man and as a soldier having stimulated the author to undertake the tremendous task of gathering the vast amount of material necessary for the writing of such a book. For in a book of this character every statement made had to be verified, since critical eyes, both North and South, would be ready to detect any misstatements of facts. The history of Forrest means the history of the battles in which he fought, and this means the history of some of the most important engagements in the Civil War. While the time has not yet come for the writing of an impartial account of the battles, nevertheless the descriptions by Dr. Wyeth are as free from prejudice as it is possible for them to be written by a man engaged on one side of the great controversy. However, this is not the place for a critical review of the book as a work of history, were we capable of making such a review, or were we so inclined. We do desire, however, to congratulate the author on the excellent success he has made of his undertaking, and we are sure that our readers will agree with us when we say that as the author of such a historical work, Dr. Wyeth has added an honor to the profession of which he is one of the leaders.

ORGANIZE—UNITE—CENTRALIZE.

The medical profession yet remains palpably negligent of its splendid opportunities and seemingly careless of its grave, indeed urgent, responsibilities to civilization, in its sloth in mustering its units into a coherent corps which will possess that power and command that respect to which it is entitled by its lofty aims and self-sacrificing labor. There are too many counties in the Union that yet have no medical societies; in too many of the states the organizations, if they exist, are lacking in virility. United in a firmly correlated and closely conjoined series of associations, our profession can imperatively demand those well-recognized reforms that will inure to the benefit of the nation, which now, on bended knee, we but faintly suggest to the law-making powers of both large and small communities. A blind man may see that in the coming century individualism will have small place in the great undertakings of commerce, the wonderful development of industry, and the increasing efficiency of labor. Brilliant deeds will be accomplished by organizations of imposing magnitude, and by huge aggregations of capital and of labor. This is the living lesson of the hour, from which may safely be predicted the future course of industrial evolution, at least for a generation. Shall those to whom is perforce entrusted the complicated problems of life and of disease be satisfied to halt in a stage of incomplete development, while the kings of industry lead on into operations of undreamed of magnitude? The untarnished honor and eternal chivalry of our noble profession cry a thundering "No!" We must be up and doing or the vanguard of progress will find us mired in the alluring shadow of careless indolence. No matter how admittedly meritorious, it is not enough that a physician shall attend thoroughly to his own little work and duty. So much, indeed, must he do in common with his fellow-man, but there is for him yet more in life. If the medical profession shall not openly and courageously and unitedly lead in the education of the nation to the possibilities of stamping out contagious disease and to the tremendous saving of human life yet to be secured through the means of improved sanitation, who in the name of Science will? Every county in the Union must have a live society in direct relation with its state organization, and these latter in their turn must maintain some definite and cordial affiliation with the one great central representative body—the American Medical Association. No better time to perfect this work can be found than *now*. Let every physician who reads the Journal think very seriously of his own individual duty to his profession and to his country. If his county and state are not already provided with good live working societies, let him earnestly talk to his professional friends and neighbors, that they may set in motion the wheels of organization. If his societies are tame and languishing, let him conjure up means to put into them the fire of progress in medicine and the zeal of doing useful deeds for their own sake. He will not fail of his reward who does this with a pure conscience, nor will his guerdon be but vanity.

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[1] Harper & Brothers.

Medical News.

Dr. J. Collins Warren, president of the Board of Managers of the Massachusetts Eye and Ear Infirmary, Boston, has resigned.

Dr. E. B. Borland, Pittsburg, Pa., has been elected professor of hygiene and dietetics in the Western Pennsylvania Medical College, in that city.

The first frost of the season was reported at New Orleans, November 4. Nearly all of the quarantines have been raised, and business has resumed its normal sway.

A fire in the administrative building at Sing Sing prison, N. Y., damaged it $50,000. The top floor of the building was used as a prison hospital. The origin is unknown.

On November 7 the citizens of Lancaster, Pa., were to vote on the bill providing for the loan of $1,382,000, believed to be sufficient to provide that city with an improved filtering plant.

At a meeting at Windsor, England, to raise funds for the use of the British Red Cross committee in the Transvaal War, Mr. William Waldorf Astor contributed £5,000, about $25,000.

Drs. D. C. Bryant and J. S. Foote, Omaha, Neb., were tendered a farewell reception by the students and faculty of Creighton Medical College, recently. They will make a trip to Paris.

The Princess of Wales has placed at the disposal of the Red Cross a considerable sum of money—the remainder of a fund collected at the time of the Soudan campaign in 1885—for the equipment of a hospital-ship.

The Italian Government has established, on the Island of Pianosa, a laboratory for the production of the Haffkine anti-plague vaccin as modified by Terni of the Messina Institute of Hygiene, in readiness for an emergency.

"Divine Healer" Schrader visited Altoona, Pa., a few days ago and was advised by the mayor to make his stay short. In Johnstown the medical society took legal steps to prevent him from practicing medicine without a license.

Dr. J. W. Ballantyne, lecturer in midwifery at the Medical College for Women, Edinburgh, at the opening of the winter session delivered an eulogistic address on the life and work of Dr. Elizabeth Blackwell, the pioneer woman physician.

Two residents of Carlisle, Pa., died October 29, under circumstances indicating poisoning. Examination developed that both had eaten apple butter which had been scraped from the bottom of a copper kettle in which it had been boiled.

The number of so-called medical journals published in Paris was 186 in 1897; in 1898, these had increased to 206, and at the present time, according to the *British Medical Journal,* they number 215. Most of these, however, are more of the nature of advertising circulars, rather than scientific.

Surgeon Major Ronald Ross, of England, who was some time ago sent to Africa by the Liverpool School of Tropical Medicine, to make investigations on the transmission of malaria by mosquitoes, has returned to England, having made important discoveries in regard to this question.

In addition to the regular army force, the medical staff in South Africa has been supplemented by the employment of fifty-six civilian appointees who will have a horse, £1 per diem, and the allowance of a captain. This is apparently the British counterpart to our system of appointing "contract" surgeons in time of emergency.

Toronto will experiment to the extent of $3000 in an aseptic tank system of sewage disposal, to be under the control of the city engineer and the medical health officer. It is altogether likely that at the municipal elections on January 1, next, a by-law asking for $2,000,000 for a sewerage system will be submitted to the ratepayers.

An antituberculosis league has been formed among the physicians of the Argentine Republic, with the definite aim of collecting funds to erect a sanatorium for children, on the sea coast, and eleven other measures for the suppression of tuberculosis. A national congress every four years is part of the plan.

The American women residing in England are following out the idea started in this country during our recent war, and are fitting out a hospital ship. The *Maine* is the ship secured, and neither labor nor pains are being spared to perfect it in all its arrangements. Lady Randolph Churchill seems to be the leader in the movement and will go with the expedition.

The religious sect known as the "Anointed Saints," in the vicinity of Marengo and Milltown, Ind., according to the lay press, still continues to defy the health authorities in refusing to secure burial permits. Six deaths have occurred in which medical assistance has been declined, and thirty-five cases of typhoid fever are said to exist within a radius of a few miles.

The suit for malpractice against Dr. Robert E. Coy of Rockford, Ill., in which the plaintiff asked for $10,000 damages, was on November 1 dismissed, the plaintiff paying the costs. The case was one in which diseased bone was removed from the foot, and later, the disease extending, the foot had to be amputated. All of Coy's professional confrèrès were ready to endorse his conduct of the case.

A man appeared at the Reading (Pa.) Hospital recently, dressed in overalls and carrying a box of tools, and stated that he had been sent to do some necessary repairs for the gas company. On attempting to leave, later, he was recognized as being a thief who had played the same game four years before, and was halted by a pistol. On being searched he had several hundred dollars of stolen money and jewelry taken from the rooms of patients.

The correspondent of the *Lancet* (October 28), writing from India on October 5, says that a further great increase in the mortality from plague has taken place, there being "5702 deaths recorded for last week as compared with 4977 for the week previous." The increase is almost entirely in the Bombay presidency, which accounts for no less than 5178. More medical men and nurses have been obtained for plague duty, 9 doctors and 21 nurses having arrived September 30.

The conclusions of a communication on the care of infants presented by Lobit at the French Congress of Medicine last year were published and distributed by a druggist of Lyons, with the addition of a supplementary "conclusion" recommending certain preparations manufactured by himself. Sued by the doctor, he was condemned to pay three hundred francs damages, and forbidden to make use of the "aphorisms, works and name of Dr. Lobit" in advertising his preparations, under penalty of fifty francs for each infraction.

According to the *Indiana Medical Journal*, November, the supreme court rendered a decision in Ohio, October 24, which has the effect of legalizing the practice of osteopathy in that state without the formality of securing a license from the State Medical Board. The decision was rendered in a case carried up from Lucas County, the supreme court holding that the manipulations which form the mode of treatment in osteopathy do not come under the law.

Dr. W. R. Spratling, Sonyea, N. Y., presented the claims of the epileptics of Illinois before the Conference of Charities and Correction, recently held at Bloomington, Ill. His suggestion was that the state secure large acreage and available soil and establish a colony and provide employment for the patients. The insistent point was that it be a colony, not an asylum, as are the institutions of Massachusetts, Pennsylvania and Ohio. The economy of colonization was illustrated and Dr. Spratling claimed the proof of it in the three years' experience of the Craig Colony.

It is evident that 1899 will rank among the most murderously epidemic years. The statistics from Poonah, India, for instance, according to *Sem. Med.*, show that there have been more deaths from the plague in the last three months than during the three years preceding. From September, 1896, to June, 1898, there were 8679 cases, with 6548 deaths; from June, 1898, to June, 1899, there were 1118 cases, all dying but nine, and since June there have been 9791 cases and 7618 deaths. Sanitary measures have been strictly enforced during these three years, but now the inhabitants petition to have them abandoned, as their inefficiency seems to be fully established.

The Secretary of State for India announced recently in the British Parliament, that the hospital admission rate per 1000 for the Indian army has been slowly but steadily decreasing. In 1898 it was 363, in 1897, 486, in 1896, 571, and in 1895, 522. This decrease is noted in spite of the fact that the new cantonments' rules, to which it is mainly attributed, had not fully come into operation at the time of the report. The ratio in 1898 is the lowest since 1887, and the reduction over that of 1897 the greatest ever noted in a single year. The figures, though they are yet, as the secretary admitted, sadly high, are certainly encouraging and indicate that the measures now in force are effective. He hopes to see them still further reduced under the present system of control.

Color Photography as Applied to Medicine.—A demonstration of color photography at a recent meeting of the College of Physicians of Philadelphia opens vast possibilities in the way of its application to medicine. By taking photographs of colored objects through red, green and violet glass, and properly superimposing the images, it is possible to accurately reproduce all of the various hues of the original. In this way may be demonstrated normal and morbid specimens, cutaneous lesions, and all varieties of clinical and pathologic manifestations of a physical nature. As yet, success has not been obtained to a practical degree in making permanent printed reproductions, but it seems an easy transmission from the present stereoscopic views to colored pictures. The instrument described is known as a photochromoscope. The suggestion was made as early as 1861, by an English scientist, Clerk-Maxwell, that three photographs representing the three fundamental colors could be optically blended so as to reproduce a photographic image, showing the colors, as well as the forms, of objects; but this seems not to have been successfully adopted until 1888, when Frederick Ives perfected devices that have finally led to the development of instruments by which the desired end has been attained. The same principles are also employed in the making of color prints.

Correspondence.

Correct Use of Words.

Chicago, Nov. 4, 1899.

To the Editor:—The former usage of the Latin word *sutura*, ind its English derivative suture, always had three meanings: :, a seam, or the line of union made by sewing parts together; 2, the seam-like lines of junction of the cranial bones; 3—n surgical use—the thread used to make the row of stitches omposing a suture.

According to the best authority the Latins did not apply he word *sutura* to a single stitch. For the latter they employed a phrase of two words signifying "a passage of the hread." There was also a rare word, *punctio*, for stitch, but t almost never appears in their literature.

When our medical ancestors dropped the Latin and began o write their works in English, their dignity, or perhaps heir pomposity led them to feel that the use of the word eam was too much like the low phraseology of cobblers and ailors, so they altered the Latin word *sutura* to make the English suture. However, they were not entirely relieved rom contact with the despised English tongue. There was he word stitch and no Latin derivative for it, but they made he best of it, and manfully concluded to use it, so that stitch nd suture were in these days never confounded. General iterature has never changed in that respect. The great ictionaries of the English language are nearly or quite unanimous in stating that stitch and suture are not synonymous. Vebster, Worcester, "The Century Dictionary," "The Standrd," and the "Encyclopedic" dictionaries agree in this. All he earlier surgical authors, and the older medical dictionaries gree on the same point.

However, a change set in. About forty years ago careless, r illy-educated surgeons, both in this country and in England, egan confusing the two terms. The medical dictionaries held ack at first, but by degrees they yielded to the constant ressure of the blunders in professional books and journals, nd now they are giving a set of definitions which, in a blundering and confused way, admit that stitch and suture are or nay be synonymous terms. Highly educated medical writers till cling to the pure English use of the words, but the blunderers are apparently winning the victory by the sheer pressure f superior numbers.

There are surgeons of great merit whose writings are connually helping on this deterioration. It is a matter of reret, because it lowers the standard of English clearness and recision. One writer says, nearly as follows: "I closed he incision with a suture six inches long, . . . by inserting fifteen sutures about a centimeter apart. Here the writer, man of high reputation, actually claims to have made one uture by putting in fifteen sutures. Scores of reputable riters are blundering in the same way. I give no names beause I am fighting literary errors and not combating individuals.

It is apparently the useless introduction of the Latinized erm "suture" which has led to this error. No one would ver have confounded seam and stitch, but suture, not being ernacular, is a hazy term in many minds.

It is best for the clearness, honor and influence of our rofessional literature that we use the simplest and purest nglish possible. Yet a surgical writer said to me not long go that he preferred to use as many Greek and Latin derivtives as possible, so as to add dignity to his words.

I know that we have to express many objects and facts hich have no English names, and hence we can not avoid l technical terms, but the evil is that unskilled writers load p their pages with an enormous and unnecessary amount of ich rubbish. Any excess of technical verbiage conceals clear hought as the scabbard conceals the sword. Draw the blade hen you wish to strike home.

The long Greek and Latin derivatives of our college days, hen uselessly lugged in, have a musty smell. They are the ried catnip of literature. Like bunches of herbs hanging the rafters of housewives' garrets, they swing and rattle empty heads, giving forth only an ancient medicinal odor.

3912 Lake Avenue. Edmund Andrews, M.D.

Milk from Tuberculous Cows.

Worcester, Pa., Oct. 16, 1899.

To the Editor: In vol. xxxiii, page 988 of the Journal, you say: "Considerable positive evidence exists of the danger from use of milk derived from tuberculous cows." This statement and statements like it are very misleading and can not be accepted by one that has given the matter much thought. It has by no means been proved that the disease is transmittable from bovine to man or vice versa, and yet this is a question that should be decided.

Such statements will have a discouraging influence on scientific investigators. It certainly has not been proved that man will take tuberculosis from milk of cows or from their meat, and expressions like the above are accountable for so few investigators working up this subject at the present time.

Very truly,

E. G. Kriebel, M.D.

[It has been abundantly demonstrated that the milk of tuberculous animals—and in less degree its secondary products, butter and cheese—contains tubercle bacilli, and inoculation of lower animals with such material has been followed by the development of tuberculosis. (See Journal, Feb. 18, 1899, p. 373.) We are not aware that analogous experiments have been made on human beings, but it is the consensus of opinion that there is an intimate relationship, if not actual identity, between the bacilli of animal and of human tuberculosis. Ed.]

Association Committee on Legislation.

Cleveland, Ohio, Nov. 1, 1899.

To the Editor: Readers of the Journal will remember that at the Columbus meeting of the Association the Committee on Legislation, of which Dr. H. L. E. Johnson, Washington, D. C., is chairman, was authorized to invite, in the name of the Association, the army medical service, the navy medical service and each state society of legally qualified practitioners of medicine, to send one delegate each to a conference to be held at Washington, D. C.; such conference to consider the medical and sanitary legislation now pending, and the members of the conference to report to their respective societies such action as ought to be taken. It goes without saying that the members of the conference will push to their utmost ability those measures on which the profession is now in substantial agreement, such as, for instance, the measure to establish a national board of health, which we hope will be got through at the coming session of Congress. While the committee representing the American Medical Association carries weight with Congress, its members can not appeal to the senators and representatives from a given state with the directness and force that a committee can which has been appointed for that purpose by the medical association of their own state. Nor will a resolution passed by the American Medical Association come home to them like an expression of opinion from the physicians of their own state—men whom they know and of whose character and attainments they are personally cognizant. Each congressman will say to himself, when the committee from his own state calls on him: "If the state medical society regards that matter of sufficient importance to send a man here and pay his expenses there must be something to it, and I can afford to give it my careful consideration," and unless there appear strong reasons to the contrary the measure is likely to get his hearty support. While denominated a "conference," in the resolution, such an assembly of representative men from the American Medical Association and the various state societies, called together for business, would run little risk of degenerating into a "talking match." The first day's session would definitely determine what were the measures on which the medical profession had already agreed, and which of those were in such shape before Congress that they could be advantageously pushed. Forenoons could be spent by the members of the conference interviewing their respective senators and representatives, and by special committees of the conference appearing before the committees of Congress having such legislation in charge. Afternoons and evenings could be spent by the conference in deciding which measures it would be best to "tackle" next, and a report could be agreed on, which the members would submit to their respective societies for ratification or rejection. In three or four days so spent every member of both House and Senate will have been interviewed by a physician duly accredited from his own state; hearings will have been had before the proper congressional committees, and matters will have been systematized for future action. The conference can then adjourn, leaving the permanent committee in Washington and vicinity with full power to act. That committee would then represent in the minds of the congressmen, not merely the AMERICAN MEDICAL ASSOCIATION, but the organized medical profession of the United States. It could see that the proper bills were introduced, that they were before the proper committees and in such shape as to be pushed by the next conference when the members came together fortified by the action, not only of the AMERICAN MEDICAL ASSOCIATION but of their respective state societies as well. This move of the AMERICAN MEDICAL ASSOCIATION makes it possible for the opinions of the medical profession to exercise a steady pressure on Congress for the public good. It furnishes a means by which the consensus of the mature judgment of the medical profession of the United States can find authoritative expression, and puts it out of the power of irresponsible physicians, with time on their hands and "money to burn," to air their fads before congressional committees under the guise of medical opinions.

Respectfully,
L. B. TUCKERMAN, M.D.

Medicine in the Far East.

(From Our Special Correspondent.)

KIOTO, JAPAN, Oct. 4, 1899.

THE FOREIGNER'S STATUS.

When over a generation ago Japan was compelled to abandon her position of isolation and open her doors to the ingress of western trade, and western ideas, her rulers wisely concluded to profit as much as possible by this new innovation, and allow her people to imbibe as much of western learning as it was possible for them to assimilate. Hence, she sent her brightest youths to Europe and America, to be instructed in their best institutions of learning, as well as inviting men of eminence to come to Japan and act as teachers in her own institutions of learning. From some cause or other, Germany was chosen as the country where most of these young men were sent to be educated; and German professors were called, in the main, to fill chairs in Japanese colleges.

The army that achieved such phenomenal success in the war between Japan and China, was drilled by German officers. A couple of decades ago nearly all the professors in the medical department of the Imperial University at Tokio were Germans. To-day, however, with a medical faculty composed of twenty professors, all the Germans but two, viz., Prof. Erwin Baelz and Prof. Julius Scriba, have been weeded out.

In fact, this weeding out process extends through every department where foreigners formerly held positions. A decade ago English engineers ran all the engines on all the railroads in Japan. To-day not a single one is to be seen. The German officers who once drilled the Japanese soldiers have been dismissed and their places filled by natives. In fact, the prints here boast that in a generation Japan has been able to stand abreast of the West in all the higher departments of learning, and predicts that at the end of another generation she will be able to eclipse all her rivals.

In the service of Dr. Scriba I saw considerable surgery, and though he stands high as an operator and teacher, his technic was not what one would have expected from a German as far as cleanliness and antisepsis are concerned. He uses chloroform exclusively as an anesthetic, because he considers it safer than ether, and sets his patients upright when operating on the face and head, because this position, he says, lessens the tendency to hemorrhage, never hinting at the fact that such a position immensely increases the danger of the patient's dying from the effects of the chloroform.

Prof. Baelz is a fine teacher of clinical medicine and, as a general practitioner, probably stands at the head of his profession in Japan. Speaking of his German colleagues who have been let out of the medical faculty here, he told me that he had wanted for some years to resign his chair and devote the balance of his life to anthropology, but the authorities seem disinclined to let him go. The explanation of his being retained is probably the fact that, a few years ago, he attended one of the royal family, and was accredited with saving the patient's life, and in consequence the Mikado is desirous of keeping him within calling distance. Despite the fact that nearly all the German teachers have been sent home, German text-books are still the standard authorities, and bed records are kept in German here in Tokio.

Prof. Baelz, in his clinical teaching uses the German language exclusively. In former years I have met a good many Japanese medical students abroad. And after my acquaintance with these, those I saw at Tokio were a sad disappointment; for while they were extremely attentive as students, the most of them appeared to belong to a lower class socially than their fellow countrymen whom I had met in Europe. A majority of them understand the German in which I heard them taught but imperfectly.

DISEASES PREVALENT IN JAPAN.

I learned from Prof. Baelz that genuine croupous pneumonia, erysipelas and acute articular rheumatism are three diseases that are extremely rare in Japan. Nearly all the pneumonia he encounters here is of the infantile type, which he treats with oft-repeated warm baths, with little or no internal medication. I saw a good many cases of typhoid fever in the wards of the Imperial Hospital at Tokio. He tells me that while the sanitary condition of the capital has been immensely improved during the last quarter of a century, typhoid fever has constantly increased. Before the influx of foreigners into Japan the disease could hardly be said to have existed at all; the germ that produces the disease was imported from abroad. After giving a thorough trial to most of the popular remedies for treatment of this disease, including a modified form of the Woodbridge treatment, for the last five years he has used nothing but camphor, and considers the drug superior to any remedy he has ever employed. He gives one gram of the drug in the twenty-four hours, divided into six doses.

BERIBERI.

I saw here at Tokio, in the Imperial Hospital, my first cases of that Asiatic disease beriberi. Those I saw were nearly all the result of typhoid fever. A weak circulation, a rapid pulse, and a condition of partial paraplegia were symptoms that existed in all these. The disease is extremely prevalent in Japan, Dr. Baelz having the records of a thousand cases he has treated. He believes there are 50,000 annually in the entire empire. Those who have had a large experience in the management of the affection do not agree as to its cause. The chief of the Japanese medical marine service, Dr. Takali, thinks that it is caused by a deficiency of albumin in the diet of the great masses of the people, and hence his chief element in its treatment is to supply this deficiency by giving the patient freely of egg and the like. Dr. Baelz, however, does not hold to this theory as a causative factor in the production of the disease, but believes that altitude plays an important rôle in its production, and hence sends his patients, when possible, to the mountains, giving them at the same time digitalis, strychnin, etc. Statistics show that from twenty-five to fifty in every thousand of those attacked succumb.

DIABETES MELLITUS.

Contrary to what one might expect among a population whose diet is composed largely of articles that contain a large amount of starch, diabetes mellitus is a very rare disease in Japan. Instead of putting his patients who suffer from this malady on a meat diet, which is poor in quality and dear in price here, Dr. Baelz gives them beans almost exclusively, the *Phaseolus radiatus*. Opium and salicylate of soda are the only drugs he gives, and on this plan of treatment his patients usually rapidly recover. An unimpressible condition of the nervous system of the Japanese as a race, may account for their partial exemption from this disease.

TUBERCULOSIS.

Tuberculosis is very prevalent, especially among the upper and middle classes who live sedentary lives. The laboring classes, however, who live out-door lives and take considerable bodily exercise, are less liable to the affection. The theory that is advanced to explain this condition of things is that persons who live on a diet composed largely of rice and the like, must use active exercise to consume its waste products, or the system becomes contaminated. Therefore the albuminoids and fats ought to enter largely into the diet of those who are not employed in manual labor.

EFFECT OF VEGETABLE DIET.

An acid form of indigestion is very prevalent among the rice-eating Japanese; and is attributed to the fact that they eat very rapidly, and thus do not mix a sufficient quantity of salivary secretion with their food before swallowing it. I saw n the out-door clinics a good many patients sent away without medicine, who were thus affected, with the simple injunction to eat *slowly*. No more convincing argument in favor of a vegetable diet could be produced by a vegetarian, than the apparent robust health and enormous muscular development that one sees among the laboring classes in Japan.

At the Crystal Palace in London, at a variety show in Paris, Berlin or Vienna, the man who performs the most herculean feats is very likely to be a Japanese who never ate a pound of meat in his life. Physicians here claim that conditions of anemia from whatever cause produced, are not improved by a meat diet. At the Red Cross Hospital, the most modern institution of its kind in Tokio, milk and rice are the two articles of diet relied on where the object is to build the patient up as rapidly as possible. Milk here is wretchedly poor n quality and very little used by the population in general; and unless it be near large towns where cows are kept, to furnish milk for foreigners, you may travel for miles through the country and never see a single specimen of the bovine species. Along the sea coast fish forms part of the diet of the Japanese, but in my travels in the interior I saw little eaten by the people except rice, beans and millet.

SYPHILIS AND LEPROSY.

The German physicians here tell me that syphilis is less frequent in Japan than in Germany, and a peculiarity of the disease here is that the secondary skin symptoms are very generally absent, thus adding to the difficulties of making a correct diagnosis.

That frightful disease, leprosy, is widely prevalent in Japan and I found in Prof. Baelz a man who has studied the subject most thoroughly, and who entertains some most positive views on the subject. He began our interview by saying that he was the only physician in the world with any reputation to lose who claims that he can cure leprosy. The Doctor is a violent opponent of the generally received opinion as to the contagiousness of the disease, and though he does not deny that the malady is sometimes transmitted in this manner, he holds that this is the exception. He treated his lepers for years in the same wards with his other patients, and during that time neither his nurses nor any of the sick who came in contact with them ever contracted the disease, though no special precautions weré used. He sent out letters of inquiry on this subject to a large number of Japanese physicians and got a report of five thousand cases that were under observation, and n only two instances could it be proven that the disease had been conveyed directly from one person to another.

There is a Japanese physician in Tokio who keeps a sanitarium for the treatment of this class of cases and he, too, s not a believer in its general transmissibility from one person to another, except when such persons occupy the intimate relation of man and wife. This man practices what he preaches, for nearly all his servants are lepers, and he claims that in no nstance have they conveyed the disease to others.

Dr. Baelz's theory is that the disease is in its first stages one of the skin only, the deeper tissues becoming involved only at a later period. His treatment consists in rubbing the parts with pumice stone until the cuticle is removed, and then sprinkling over this surface pure salicylic acid. After a few applications of the remedy in the pure form, he uses it later diluted with starch. A part of his treatment, however, that would be difficult for the poor leper at a distance to avail himself of, is the use of the baths at Kusastsu, near Kioto. The waters of these springs contain a large amount of free sulphuric acid, beside iron, alum and arsenic, and act as a vioent irritant to the skin if used for too long a time. Most of the cases that Dr. Baelz treated and claims to have cured were from the Sandwich Islands. I called at the well-equipped bacteriologic laboratory of Prof. Kitasato but found him out of the city. The reader will remember that a few years ago the public prints announced his discovery of the leper germ as well as a serum that would cure the disease. Prof. Baelz tells me that nothing of practical value has come of his highly creditable work.

WORK IN GYNECOLOGY AND OBSTETRICS.

Prof. Gentatsu Hamada has the chair of gynecology and obstetrics in the Imperial University, and as an operator in his line is probably the foremost man in Japan. He was educated largely under Freund, at Strasburg, and has imbibed all his master's notions in relation to antisepsis in surgery. His service occupies a series of pavilions that open on each side on to a veranda which is enclosed by glass shutters that can be opened or shut as the weather demands. At the entrance of the central building I was met by a servant, who removed my shoes and furnished me with a pair of felt slippers to wear in their stead. The floors of the whole building were of hard wood, over which there appeared to be a coating of lacquer, and they were as free from dirt and dust as possible. Before I entered the operating-room I put on a cotton gown.

Just before operating Dr. Hamada takes a warm bath, and after that puts on no clothing except a thin sterilized cotton gown. All those who take an active part as assistants are required to undergo the same kind of an ordeal. The Doctor spends from thirty to forty minutes in cleansing his hands and arms, and during all this time two assistants are scrubbing the field of operation. The faulty part of all this procedure, however, is that during this long period that intervenes before he begins to operate the patient is kept thoroughly narcotized, in fact, the reckless manner in which they give chloroform here, claiming that no fatalities result from its administration, leads me to believe that the Japanese are more tolerant of the effects of the drug than is the Anglo-Saxon race.

The doctor sticks to silk as a ligature in the abdominal cavity. He closes the wound in abdominal operations with a single row of silkworm gut sutures including peritoneum, muscles and skin. Speaking to him as to his after-management of his abdominal cases, he replied that if you do not infect your patients all other matters are of secondary consideration. I saw eight cases on which he had done abdominal sections, and in none of them had the temperature risen above 38 C., which was certainly a very good showing.

I saw more cases of vesicovaginal fistula in Dr. Hamada's service in one day, than I have seen in a whole year's hospital observation in Europe.

MEDICAL PRACTICE.

The medical profession, like everything else in Japan, is in a stage of transition. Until a few years ago medicine, like every other department of science, was copied largely from the Chinese. Her abominable materia medica was the only one in use; up to fifty years ago Chinese physicians monopolized the practice of medicine in Japan. However, latterly the authorities have required the doctors from the Middle Kingdom to pass an examination before being allowed to practice in the Mikado's empire. This examination is very thorough in anatomy and physiology, and of the last number examined not one in fifty could pass. European and American physicians are treated very leniently by the Japanese authorities, only being required to have their diplomas translated into Japanese and pay a fee of $20. I am told they are now trying to classify our medical colleges and intend only to allow those holding degrees from the best of these institutions the privilege of practicing. With a population of forty-three million Japan has 35,000 physicians, but of these less than 1500 belong to the first class, viz.: those who have degrees from a foreign or native university.

It is the policy of the government to weed out of the profession all but university men, and none but this class will in the future be licensed to practice. Fees here are extremely low, the best men not receiving over $2.50 a visit, and there are thousands in practice who only charge from 25 to 50 cents for the same service. Unfortunately for the younger men in the profession, a few prominent physicians monopolize the larger part of the best paying practice in the large cities. These men generally run private hospitals, hire all the way from ten to fifty assistants, who do most of the work but get but very little pay for what they do.

"Bleeding Families."—Anyone knowing of "bleeding families"—hemophilia—is asked to send particulars to P. O. Box 494, New York City.

Canada.

(From Our Regular Correspondent.)

Toronto, Nov. 4, 1899.

ASYLUM INQUIRY IN PRINCE EDWARD ISLAND.

There have been gross irregularities, as the evidence plainly shows—a very grave matter in itself, not only in connection with the management of the institution but also in the conduct of the inquiry. It seems to be notorious that the percentage of cures at this asylum at Falconwood is abnormally small; that trained nurses and a competent resident physician are absolutely necessary; that the food for the patients is very often of an inferior quality; that the heating arrangements are very defective, the inmates often suffering from cold; and that the visits of the trustees have fallen from 100 per annum a few years ago to fourteen in 1898. For the purpose of meeting this inquiry, the government is charged with having mutilated and "cooked" the reports of Dr. Blanchard, the visiting superintendent, especially in 1897 and 1898, when whole pages from his annual reports were cut out and probably destroyed. Unless this staunch little island is to become a by-word and a mark of reproach in its manner of dealing with these wards of the government, some drastic measures should be at once inaugurated or the lieutenant-governor should dismiss his ministry and save the fair fame of Prince Edward Island from being besmirched, the world over.

HOSPITAL ABUSES IN TORONTO.

Within late years hospitals and dispensaries have flourished to such an extent in Toronto that only a very few months back a purely homeopathic institution had to convert itself into a general hospital in order to keep in the race for patients. Some of the members of the local Board of Health have concluded that it is time to call a halt and let the various municipalities outside the city limits care for their own pauper patients and not foist them on this city. Cases have been noted where even wealthy provincials have come to Toronto and received medical or surgical attention at the ordinary hospital rate, thus cheating their own family physician at home out of his fee, as well as their attendant while inmates of the hospital here. One alderman is strongly of the opinion that the city general hospital should receive and care for all our pauper patients, and that patients shall not in future be allowed to select the hospital in which they shall receive treatment. At the Toronto General Hospital the students from the three medical colleges mostly receive their training, although within the last two or three years St. Michael's has contributed something in that direction; therefore, it is from this fact that these charity patients have been choosing the other hospitals to the detriment of the General Hospital, so as to escape solicitations of inquiring students. In view of these facts the City Relief Officer is to report on the circumstances of all applicants for hospital relief, and the Medical Health Officer has been ordered to prepare a report on the abuse of the present system. He will also recommend that all the funds voted for hospitals shall be administered by the Board of Health. It is to be sincerely hoped that a little leaven will leaven the whole lump.

"CHRISTIAN SCIENCE."

At this week's regular meeting of the Ministerial Association of this city, the Rev. J. B. Kennedy presented an interesting paper entitled: "The Errors and the Dangers of 'Christian Science'." The essayist first dealt with Mrs. Eddy under four heads, viz., as a philosopher, as a religionist, scientist and physician. He placed her with the old Platonists as a philosopher, who denied the existence of an external world and identified the subject knowing and the object known as one. As a religionist, she believes in an impersonal God who is nothing—a nonentity only as He becomes conscious and personal in man, which is but the Brahminism of India. Of course she denies the existence of disease as a physician—but sits down to cure a nothing—and then treats all disease as having a spiritual origin, produced by sowing ideas in the minds of people. Then as a scientist, she cuts the ground from under all science by saying that the testimony of the five senses is a lie, a delusion, a dream of mortal sense.

TYPHOID FEVER FROM MILK.

At the meeting of the city Board of Health this week Dr. Sheard reported that there were thirteen cases of typhoid fever in families using bottled milk, all supplied by the same dealer. He had examined the source of supply in the district whence the milk was brought, but could find nothing wrong and believes the trouble is nearer home, in these particula families, due to the fact that the bottles were not properly cleansed.

Baltimore.

Prof. W. S. Thayer has been investigating malarial mosquitoes at Newport News, Va.

Dr. Eugene F. Cordell has been elected president of the Medical Society of the Woman's Medical College of Baltimore

The patient who was transfixed with a chisel, as related i last week's Journal (p. 1181), has done well and is about t leave for his home.

Dr. James M. Morrison was recently robbed of money an jewelry valued at $200. He was stunned by the butt of pistol and held prisoner by one of the robbers while the othe ransacked the house and secured the booty.

The first set of books and papers which will be include in the Johns Hopkins University and Medical School exhibit at the Paris Exposition in 1900 was shipped to Albany, N. Y. last week, to be forwarded to the American Commissioners i Paris.

Dr. H. H. Biedler, professor of surgery in Baltimore University, was sued by a carpenter who fell from a scaffold breaking his right arm and left leg. The plaintiff allege that his arm had remained stiff in consequence of Dr. B.' unskillful treatment of it, and claimed $25,000 damages. A decision has been made in Dr. B.'s favor.

Dr. James S. Woodward, Sparrow's Point, a suburb of thi city, was tried last week in the Baltimore County Circui Court for failing to report a case of smallpox to the Count Local Board of Health as required by law. The defense admitted that Dr. W. did not report the case, but claimed tha he was only the local physician of the Maryland Steel Co. at Sparrow's Point, that Dr. Robert W. Johnson was th physician in charge there, and that Dr. W. was subject to th control and judgment of Dr. Johnson. It was also show that the officials at Sparrow's Point had done everything possible to stamp out the disease. and that they had expende $1000 in these efforts; also that both physicians had used al efforts to prevent the disease from spreading. The judge decided that Dr. W. had been technically guilty, but as ther had been no intention of violating the law he declined to affi any punishment.

Philadelphia.

The Board of Health is at last aroused over the spread o diphtheria, especially in regions situated in the school districts, and an investigation has been ordered as to the sanitary condition of every public school building in the city Buildings in a bad way are to be closed and disinfected. A examination is to be made of every pupil, and on any suspicio that a child has diphtheria or scarlet fever, it is to be ordere home until all danger has passed. This is all good as far a it goes. If the proper persons would go around with the on who does the "cleaning up," it would be advantageous. F example, last year a janitor—the principal custodian of th sanitary condition of the buildings—simply sprinkled iod form around the house. Sometimes he delegates his duti to another not so prominent in politics.

The killing of diseased cattle in this locality goes steadi on. In one bologna sausage factory one cow was found to suffering from tuberculosis, and another at a different factor while at one of the stock-yards some were suffering from th disease and others with actinomycosis. In the North Phil delphia stock-yards fourteen animals reacted to tuberculin a were ordered killed. Out of 188 calves, 60 were condemned b cause they were too young, and in another lot of 49, 14 we unfit for food.

Another death has occurred here, hastened by "Christi Science" treatment. A resident of Germantown, according report, was suffering from tuberculosis, renounced medici several years ago, and being converted to "Christian Scienc treatment, the head of the craze, Mrs. Mary Baker Eddy, w at once sent for and came to Philadelphia, but her presence did not stay the hand of the disease. Shortly before death he renounced the fad and asked for a physician.

THAT SPIRIT of college men which breaks out from time to time infested the precincts of the Medico-Chirurgical College one day during the past week, among men of the sophomore and freshman classes. Two students were sent to the hospital immediately afterward to undergo certain needed repairs.

ON NOVEMBER 3 a dinner was tendered by the Philadelphia Medical Club, in honor of Dr. Simon Flexner, formerly of the Johns Hopkins, but now of the University of Pennsylvania, and Dr. John G. Clark, a recently elected member of the faculty of the University.

AT THE last regular monthly meeting of the Board of Trustees of the Beth Israel Hospital, the following officers were elected: attending physicians, Edwin Rosenthal Louis Jurist, J. B. Potsdamer; attending surgeons, Max J. Stern, A. H. De Young, Melvin M. Franklin; ophthalmic surgeon, Samuel J. Gittelson; dermatologist, Isidore M. Koch; pathologist, Alexander Klein.

THE MAYOR has recently recommended to Councils that a row of shade trees be planted on either side of Broad Street for a distance of several miles. In his opinion $10,000 will cover all expenses.

IMPROVEMENTS at St. Joseph's Hospital are now about completed. Another story has been added, a new operating-room, and new quarters provided for the nurses.

DR. LAURENCE TURNBULL, professor of otology in the Jefferson Medical College, tendered his resignation November 6, after thirty years' service in that institution.

Chicago.

A DEATH from hydrophobia was reported during the week.

DRS. NICHOLAS SENN and Truman W. Miller have returned from their annual quail-shoot in southern Illinois.

DR. P. M. WOODWORTH has resigned from the Lincoln Park Board, of which he was president.

DR. L. HARRISON METTLER has an excellently written article in *Werner's Magazine*, entitled "The Poetry of Science."

THE TRUSTEES of the sanitary drainage canal expect to complete the work next month. One of the most interesting exhibits from this city at the Paris Exposition will be a miniature reproduction of the canal.

THERE IS one case of smallpox at the Isolation Hospital. The disease was conveyed by a fruit vender who arrived from Storm Lake, Iowa, October 31, and died November 8. His boarding-house room-mate has contracted the disease.

A PLAN has been formulated by the city council to provide eighteen small parks for the thickly populated portions of Chicago. The selection of site has been left to a committee, of which an expert sanitarian shall be a member.

THE ACTION of the city council in temporarily doubling the inspection and fumigation departments of the Health Office will not interfere with the plan for the examination of school children (JOURNAL, p. 1181). The Board of Education at its last meeting postponed action in the matter until its next session. As the measure is in harmony with the present teaching of preventive medicine and has been strongly commended in medical and lay circles, its prompt adoption is expected.

HEALTH OF THE CITY.

THE MORTALITY from all causes was 381, which is the smallest since the week of Dec. 10, 1898. However, the situation is far from being satisfactory, according to the weekly bulletin of the Health Department. The summary of deaths by ages, sexes and causes shows a continued excess of diphtheria, scarlet fever, measles and whooping-cough, and the number of cases of these diseases indicates their almost epidemic prevalence. Their contagion is more widely spread than any time in the past fourteen years, and it is feared that the same is true of smallpox throughout the country generally.

Smallpox, says the bulletin, has prevailed extensively for more than a year, in so mild a form as not to attract sufficient attention to cause the enforcement of the usual preventive measures. The result has been the sowing of the contagion broadcast, and it only awaits favoring conditions to develop an epidemic.

The bulletin notes a steady improvement of the water-supply since the cessation of lake dumping. This has materially reduced the mortality from the "impure-water" diseases. In September there were 402 deaths from these diseases, in October only 178; and last week 30, as against 32 the week previous, and 35 in the corresponding week of 1898. A recent storm caused some pollution of the water-supply by stirring up the foul bottom of the lake, but the degree of such pollution has not been so marked as usual. Until the operation of the main drainage channel and sanitary waterway the Department still recommends that the young and non-immune should not drink untreated hydrant water.

AT A meeting of the city council, Health Commissioner Reynolds presented to that body a communication calling attention to the number of contagious diseases now assuming epidemic proportions. and to the inability of the Department with its present resources to enforce the proper measures to arrest their progress. During the past month there were 1262 cases of contagious diseases reported, and with only ten medical inspectors and ten disinfectors it has been impossible to give necessary attention to these cases. He also pointed out the threatened smallpox epidemic and urged an appropriation of $4750 for the employment for three months of ten inspectors and ten disinfectors in addition to the present force. Favorable action was taken by the council, and the appointments will be made immediately.

Washington, D. C.

ANNOUNCEMENT is made of the coming marriage of Dr. Louis Mackall, Jr., of Georgetown, D.C.

THE REPORT of Health Officer Woodward for the past week shows the total number of deaths were 97, of which 61 were white and 36 colored. There were 67 cases of diphtheria, 78 of scarlet fever and 2 of smallpox under treatment at the close of the week.

THE PRESIDENT of the Board of Medical Supervisors has requested the commissioners to include in their estimate for the coming fiscal year, an appropriation for a police officer, whose special duty it shall be to enforce the law regulating the local practice of medicine. He is also asked that they recommend a fixed fee of $10 each for each day of meeting, for the supervisors and Board of Medical Examiners. Health Officer Woodward has indorsed the recommendation.

Books and Pamphlets Received.

Acknowledgement of all books received will be made in this column. and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES. Designed for the use of Students of Medicine and Psychology. By Lewellys F. Barker, M.B. (Tor.) With two colored plates and six hundred and seventy-six illustrations. Octavo. Cloth. Pp. 1122. Subscription price, $6.00. New York: D. Appleton & Co. 1899.

RINGWORM AND SOME OTHER SCALP AFFECTIONS: THEIR CAUSE AND CURE. By Haydn Brown, L.R.C.P. etc. (Edin.) Octavo. Cloth. Pp. 170. Price, $1.75. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1899.

INTERNATIONAL CLINICS: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology. Edited by Judson Daland, M.D. Volume III. Ninth Series. Octavo. Cloth. Pp. 298. Philadelphia: J. B. Lippincott Company. 1899.

MALSBARY'S PRACTICE OF MEDICINE. A Pocket Text-Book of Theory and Practice of Medicine. By George E. Malsbary, M.D., Assistant to the Chair of Theory and Practice of Medicine, Medical College of Ohio, Cincinnati. In one handsome 12mo. volume of 405 pages, with 45 illustrations. Cloth. $1.75, net. Philadelphia and New York: Lea Brothers & Co.

LOVELINESS: A STORY. By Elizabeth Stuart Phelps. Illustrated. Square 12mo. Cloth. Price, $1. Boston and New York: Houghton, Mifflin & Co. 1899.

A TEXT-BOOK OF PHYSIOLOGY. For Students and Practitioners. By Winfield S. Hall, A.M., M.D., Ph.D., Professor of

Physiology in the Northwestern University Medical School, Chicago. In one very handsome octavo volume of 672 pages, with 343 engravings and 6 colored plates. Cloth, $4, net; leather, $5, net. Philadelphia and New York: Lea Brothers & Co. 1899.

The Abdominal Brain and Automatic Visceral Ganglia. By Byron Robinson, B.S., M.D., Professor in Chicago Post-Graduate School of Gynecology and Abdominal Surgery, etc. Illustrated. Octavo. Cloth. Pp. 202. Price, $3. Chicago: The Clinic Publishing Company. 1899.

A Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Illustrated with one colored plate and three plates of Microscopic Preparations. 5⅜x7¾ inches. Pages viii-204. Extra Cloth, $1, net. Philadelphia: The F. A. Davis Co. 1899.

A Prescription Book of Infant Dietetics for the Home Modification of Milk. By A. B. Späch, A.M., M.D., Chicago. 50 blanks. Price, 50 cents. Published by the author.

Introduction to the Outlines of the Principles of Differential Diagnosis with Clinical Memoranda. By Fred. J. Smith, M.A., M.D., Oxon., F.R.C.P., London. Octavo. Cloth. Pp. 354. Price, $2. New York and London: The Macmillan Co. 1899.

The Schott Methods of the Treatment of Chronic Diseases of the Heart, with an Account of the Nauheim Baths, and of the Therapeutic Exercises. By W. Bezly Thorne, M.D., M.R.C.P. Third Edition. Illustrated. Octavo. Cloth. Pp. 132. Price, $1.75. Philadelphia: P. Blakiston's Son & Co. 1899.

Tuttle's Diseases of Children. A Manual for Students and Practitioners. By George M. Tuttle M.D., Attending Physician to St. Luke's Hospital, Martha Parsons' Hospital for Children, Bethesda Foundling Asylum, etc., St. Louis, Mo.. In one very handsome 12mo. volume of 374 pages, with 5 colored plates. Cloth, $1.50, net. Philadelphia and New York: Lea Brothers & Co. 1899.

An Introduction to Dermatology. By Norman Walker, M.D., Fellow of the Royal College of Physicians and Surgeons, Edin. Illustrated. Octavo. Cloth. Pp. 248. New York: Wm. Wood & Co. 1899.

The International Text-Book of Surgery. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., and A. Pearce Gould. Volume II. General and Operative Surgery. Illustrated. Octavo. Cloth. Pp. 948. Price, $5 per part. Philadelphia: W. B. Saunders. Chicago Agent, W. T. Keener.

A Compend of Gynecology. By William H. Wells, M.D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Policlinic, etc. Illustrated. Octavo. Cloth. Pp. 280. Price, 80 cents. Philadelphia: P. Blakiston's Sons & Co. 1899.

PAMPHLETS RECEIVED.

Alexander's Operation. Charles P. Noble, Philadelphia. Reprinted from Amer. Gyn. and Obst. Jour.

An Adjustable Bracket for the Reid Ophthalmometer. Chas. A. Oliver, Philadelphia. Reprinted from Univ. Med. Mag.

Asepsis in Country and Private Practice: A New Sterilizer. Hamilton Fish, Ouray, Colo. Reprinted from Colo. Med. Jour.

Bacteriolology of the Accessory Sinuses of the Nose. Richard Mills Pearce, Boston. Reprinted from Jour. Boston Soc. Med. Sci.

Brief Report of a Case of Fibroma of the Eyelid. Chas. A. Oliver, Philadelphia. Reprinted from Ophthal. Rec.

Bottini's Operation and Other Treatment of the Enlarged Prostate. Robert Newman, New York. Reprinted from Med. News.

Carcinoma of the Duodenum. Chas. D. Aaron, Detroit, Mich. Reprinted from Phila. Med. Jour.

Case of Large Solitary Tubercles of the Heart. A. W. Hoisholt, Stockton, Cal. Reprinted from Trans. Med. Soc. Cal.

Causation of Uterine Retrodisplacements. Wilmer Krusen, Philadelphia. Reprinted from Amer. Gyn. and Obst. Jour.

Circumstances Under Which Chloroform is Preferable to Ether as an Anesthetic. Geo. W. Gay, Boston. Reprinted from Boston Med. and Surg. Jour.

Continued Fever of Epidemic Influenza. W. W. Johnston, Washington, D. C. Reprinted from Trans. Assn. Amer. Phys.

Difficult Points in Gynecologic Diagnosis. Wilmer Krusen, Philadelphia. Reprinted from Phila. Med. Jour.

Disease of Convulsive Tic, with Spacial Reference to a Hypothesis as to Etiology. Bernard Oettinger, Denver. Reprinted from Amer. Jour. Med. Sci.

Failure of Antitoxin in Treatment of Diphtheria. J. Edward Herman, Brooklyn, N. Y. Reprinted from N. Y. Med. Rec.

History of the Early Operations for Fibroid Tumors. Chas. P. Noble, Philadelphia. Reprinted from Amer. Jour. Obst.

Hydrochloric Acid, Simple Method of Administering. Chas. D. Aaron, Detroit, Mich. Reprinted from Journal.

Interstitial Pregnancy, with Report of a Case Operated upon Thirteen Months after Conception. Archibald MacLaren, New York. Reprinted from Amer. Gyn. and Obst. Jour.

John Hughes Bennett: His Services to Medicine. W. W. Johnston, Washington, D. C. Reprinted from Md. Med. Jour.

Localized Tuberculosis of the Intestines. W. J. Mayo, Rochester, Minn. Reprinted from N. Y. Med. Jour.

Non-Operative Treatment of Appendicitis. T. J. Schnell, Parnell, Iowa. Reprinted from Trans. Iowa State Med. Soc.

Operations During Pregnancy. Chas. P. Noble, Philadelphia. Reprinted from Amer. Gyn. and Obst. Jour.

Observations on Surgery of Gall-Bladder. W. J. Mayo, Rochester, Minn. Reprinted from Annals of Surgery.

Observations on a New Coal Tar Product. S. A. Billings and H. A. Engelhardt, New York. Reprinted from So. Pract.

Physiologic Rhythms. Wm. Lee Howard, Baltimore. Reprinted from Journal.

Pulmonary Tuberculosis with Intercurrent Typhoid Fever Complicated by Pneumonia—Triple Infection. A. A. Eshner, Philadelphia. Reprinted from Amer. Jour. Med. Sci.

Plea for Conversatism in Gynecology. F. C. E. Mattison, Pasadena, Cal. Reprinted from Southern Cal. Pract.

Prophylactic Treatment of the Uric Acid Diathesis—Amniform. J. A. Goldman, Vienna. Reprinted from Klin. Therap. Woch.

Progress in Gynecology. Chas. P. Noble, Philadelphia. Reprinted from Md. Med. Jour.

Restoration of Conjunctival Cul-de-sac in a Case of Total Symblepharon, by Means of Theirsch Skin Grafts. Chas. N. May, N. Y. Reprinted from Arch. of Ophth.

Reduction of Obesity. Wm. T. Cathell, Baltimore. Reprinted from Md. Med. Jour.

Scarlet Fever. Richard Mills Pearce, Boston. Reprinted from Boston City Hosp. Reports.

Study of a Case of Feigned Eruption. Martin F. Engman and Sidney I. Schwab, St. Louis. Reprinted from Med. Review.

True Conservatism in Gynecology. Chas. P. Noble, Philadelphia. Reprinted from Pa. Med. Jour.

Traumatic Rupture of the Urethra. E. J. Senn, Chicago. Reprinted from Phila. Med. Jour.

Therapeutic Value of Kryofine. Adolph Fasano, Naples. Reprinted from Arch. Internat. Med. and Surg.

Umbilical Hemorrhage, with Report of Two Cases. H. B. Mills, Philadelphia. Reprinted from Phila. Med. Jour.

Trade Pamphlets.

Aletris Cordial Rio Chem. Co., St. Louis.

Agentimine, Alpha-Eucain, Beta-Eucain, Anusol Suppositories, Collargolum and Unguentum Credé, Creosotal and Duotal, Rubidium Iodid, Trikresol, Utropin and Xeroform. Schering & Glatz, New York.

Feralboid. Lyptol. The Argol Company. Danbury, Conn.

Protose. Hatch Protose Company, New York.

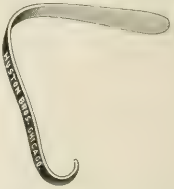
New Instrument.

NEW TONGUE-DEPRESSOR.

BY ALBERT H. ANDREWS, M.D.

CHICAGO.

The large number and great variety of tongue-depressors already on the market make it unsafe to claim entire originality of design in the introduction of a new one. This depressor, however, has qualities which I have not seen in any other. The instrument is of steel, with narrow blade, smooth flat handle, and has a bend, at the bottom of the handle, i which the little finger rests when the depressor is in use. Th handle is set at less than a right angle to the blade and thi sharp angle brings the hand close to the patient's chin.



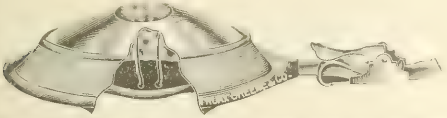
While depressing the tongue, the physician can extend on finger out under the patient's chin, and thus holding the tongu and chin between the blade of the depressor and the finge he gains complete control of the movements of the patient head. The finger beneath the chin not only gives better contr of the head, but enables one to depress the tongue with great ease both to the physician and the patient.

One of the causes of resistance and of gagging is the sens tion that the instrument is about to slip down the throa The additional point of contact between the hand and the p tient's face seems to give him a sense of security and to less the feeling that the instrument is about to go back too fa The bend at the bottom of the handle makes it impossible f the hand to slip down on the instrument.

Miscellany.

Vaccination in Tropical Countries.—The superintendent of the Pasteur Institute at Tunis calls attention to the influence of high temperature on vaccin, and urges the necessity of refraining from making any vaccinations during the heated term.

Report on the Schleich Solution.—In the Journal of November 4, page 1323, appears an article under this caption, by R. M. Stone, M.D., Omaha, Neb. Inadvertently the illustration of the Stone mask—herewith given—was omitted from the article.



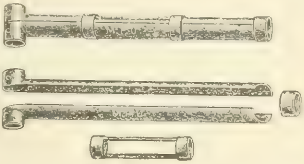
Bacteria in Sprinkled and Unsprinkled Streets. Research at Freiburg has revealed the unexpected fact that the number of bacteria is on an average twice as much in the dirt of sprinkled streets as in those of the unsprinkled, according to *Archiv. f. Hyg.*, 4, showing the favorable effect of moisture on the growth of bacteria, but the number of pathogenic bacteria was about equal and the increased numbers are compensated by the stationary position of the sprinkled dust instead of its being whirled in the air by every breeze as in the unsprinkled streets.

Sanitary Laws in Greece.—The quarantine regulations in Greece detain vessels from infected countries five to twenty days, and vessels from countries in relations with others that are infected, are detained one to five days. The quarantine stations are on the islands of Delos, Corfu and at Trikera. Thanks to the constant surveillance, no epidemic has gained a foothold in Greece of late years, and many persons have sought refuge there from epidemics of cholera in Egypt and Turkey. No quarantine is maintained along the land boundary, as there is scarcely any communication by land with other countries. Beyond this the sanitary laws are the same as in other civilized countries.

Prochorow's Dynamic Theory of Therapeutics.—The advantages of adjusting the dose to the weight of the body, of which Prochorow called attention not long ago, have been tested by Taube and Akazatow, who report in *Vratch* that three to four injections in syphilis—made according to this principle—resulted in the complete disappearance of all symptoms with increase of weight and never any indications of intoxication. The injections were made in the gluteal muscle every tenth or twelfth day—.003 Hg biiodatum and .006 pot. iod. to each kilogram of body weight, or 2.2 lbs. Calomel was also most effectively administered according to this principle, e. g., .01 for each kilogram of weight, twice a day, per os.

Professional Ethics.—We see the question agitated from time to time as to the advisability of deserting that ancient institution, the "Code of Ethics." We see it stated that it has outlived its usefulness, that it needs alteration, revision, that it is old and there must be nothing old in medicine. It would seem that the object sought to be accomplished by the code is not always understood. It does not in any way restrict the honorable physician in the legitimate pursuit of his calling. It enunciates certain rules governing the physician in his conduct toward his professional brethren. But these rules are only such as govern the conduct of a gentleman toward his fellows. It is urged that charlatans, quacks and unprincipled physicians are not held in check by its tenets. This is true, but we can not combat them by descending to their level. All we can hope is that by being honorable one with another, and with the people at large, we will be appreciated and respected by the discriminating portion of the community. After all, the most important thing is a man's respect for himself; and we could have no self-respect should we violate the rules of honorable conduct among ourselves or between ourselves and our patrons. De we not overhaul our manifest from time to time? New ideas are advanced and old ones modified or discarded. We have new forms of treatment, based upon a better understanding of the causes of disease. Diseases are observed, studied, and named, that escaped the observation of our predecessors. There are new classifications and additional aids in diagnosis. But the gentlemanly spirit that actuates a physician in his daily contact with his fellows is always the same. To live up to the code is simply to be a gentleman—nothing more. We have outlived many of the traditions of the past, but the spirit of the code of ethics will obtain whether written or unwritten, so long as the medical profession recruits its ranks from the conscientious, educated, honorable portion of the community.—*Chicago Clinic*, October.

Drainage of Bile-Ducts.—The necessity of suturing at the time of operating is obviated by the system of drainage devised by Dembrowsky (*Centralbl. f. Chir.*, Leipsic, October 7), who inserts a tube through the incision in the common bile-duct. When the bile flows out at the upper end, it shows that the cross-bar below is really in the bile-duct, its lumen corresponding to the lumen of the duct. Then corking up the upper end, the bile flows unhindered toward the duodenum. The two halves are held together by the two connected rings slipped over them and by the third ring screwed on at the top. Each end of the cross-bar below is fitted with a short, thin rubber tube, sewed in place by the holes seen in the cut. Each half of the tube is inserted separately; the one toward the duodenum first and then the other toward the hepatic duct. Both halves are then screwed together and the top corked. The tube is taken apart for removal, in the same way.



International Congress of Medicine.—The American Committee of the Thirteenth International Medical Congress met in Philadelphia, October 21. There were present: Drs. W. W. Keen, president of the American Medical Association, in the Chair; Geo. M. Sternberg, surgeon-general, U. S. A.; Wm. K. Van Reypen, surgeon-general, U. S. N.; Walter Wyman, surgeon-general, U. S. M. H. S.; Horace G. Miller, president of the American Otological Society; E. D. Fisher, president of the American Neurological Association; Geo. J. Engelmann, president of the American Gynecological Society; H. W. Stelwagon, president of the American Dermatological Association; Samuel Johnston, president of the American Laryngological Association; R. F. Weir, president of the American Surgical Association; A. Jacobi, president of the American Climatological Association; E. G. Janeway, president of the Association of American Physicians; Henry Koplik, president of the American Pediatric Society.

Dr. Osler stated that he had received instructions to organize the American National Committee. After consultation he nominated as members thereof, the presidents of the American Medical Association, Congress of American Physicians and Surgeons, and of the constituent societies composing the same, the surgeons-general of the army, navy and marine-hospital service, and the president of the American Dental Association. Dr. Osler read the following letter of instructions, which he had received from Dr. Chauffard, the General Secretary.

Honored Colleagues: I have the honor to state that I have sent you: 1. A package of subscription blanks ("Forms of Adhesion"). 2. Some account books with stubs.

1. Subscription Blanks ("Forms of Adhesion").

Please distribute these blanks as widely as possible, sending them to universities, hospitals, learned societies, in a word, wherever you deem it possible to obtain subscribers to the congress.

We have thought it wise to prepare these blanks in such form that they may be of a uniform type for all countries, which will facilitate the task of classification of the members.

Please insist that your fellow-countrymen conform to all the directions which are therein contained.

Pray distribute, together with our subscription blanks, announcements of your own, indicating the name and address of the representative of your committee to whom the subscribers in your country should address the subscription blanks when filled, as well as of the corresponding funds.

These subscription blanks should be collated by you and sent to us in groups of fifty, with the visiting cards and the corresponding stubs of the record book (vide infra).

It is then understood that these blanks constitute simply a sort of propaganda, and that we shall consider as members of the congress only those gentlemen who shall have sent to your committee the amount of their subscription, and shall have received in exchange the receipt from your account book (leaflet C).

2. Account books.

The three account books which we have sent you (series 171 to series 173) represent each fifty subscriptions to the congress. We would call your attention especially to the detailed directions which appear on the first page of the book.

The stubs of this book (leaflets A and B), which serve us at the same time for registration of the members and for our financial accounts, we beg you to fill out as legibly as possible, and not to forget to place the stamp of your committee at the point indicated on each of the three leaflets. This stamp will eventually indicate to us the origin of each inscription.

This is but the first installment, and we shall be glad to send you, if it be necessary, new account books as soon as you may request them. We beg you to send us the stubs as soon as each of the account books is filled, together with the amount of the corresponding subscriptions and the filled subscription blanks.

We trust that these account books will facilitate the laborious task in which you have kindly lent us your assistance.

Pray understand that we are entirely at your service to furnish you any further explanations which you may desire concerning our registration of members. Yours, etc.,

A. CHAUFFARD, Secretary-General.

It will thus be seen that the work of each national committee of this congress is very different from that heretofore intrusted to them. Physicians in this country who wish to become members of the congress must apply to the secretary of the national committee, who will forward a blank of application, which is to be filled in and returned to the secretary, with a fee of $5.

Dr. Osler was empowered to appoint a physician as secretary to the committee, and to secure such aid as would be necessary to carry on the work. Dr. Henry Barton Jacobs, Baltimore, was appointed to the position. The question of meeting the expenses of the committee was left to the chairman. If each national committee is expected to meet its own expenses, it was agreed either to call on the treasurers of the societies represented in the committee, or on the individual members.

The medical journals of the country were requested to aid in making known the conditions under which registration in the congress may be effected, as widely as possible.

While it is to be understood that the central committee wishes the subscriptions to be sent to the secretary of the national committee, Rule 3 of the congress provides that persons wishing to be members may forward their subscriptions to the treasurer-general of the congress.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from October 19 to and including Nov. 2, 1899:

W. Edson Apple, acting asst.-surgeon, from Washington, D. C., to Fort Columbus, N. Y.

Ira Ayer, acting asst.-surgeon, from the transport *Wright* to Camp Meade, Pa., to accompany the 41st Inf. Vols., to Manila, P. I.

William J. Boyd, acting asst.-surgeon, from Fort Riley, Kan., to accompany the 40th Inf. Vols. to Manila, P. I.

William H. Corbusier, major and surgeon, U. S. A., member of an army retiring board at Manila, P. I.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., from Fort Leavenworth, Kan. to Fort Reno, Oklahoma.

William D. Crosby, major and surgeon, Vols., member of an army retiring board at Manila, P. I.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., member of a board of promotion convened in New York City.

Charles M. Gandy, captain and asst.-surgeon, U. S. A., former orders directing him to accompany the 43d Inf. Vols. to Manila, P. I., revoked.

Charles R. Greenleaf, colonel and assistant surgeon-genaral, U. S. A., former orders revoked; he will proceed from San Francisco, Cal., to Manila, P. I., reporting to the commanding general for duty as chief surgeon of the Department of the Pacific and Eighth Army Corps.

Francis A. Harris, acting asst.-surgeon, relieved from Fort Banks, Mass., for annulment of contract.

A. F. Higgins, acting asst.-surgeon, leave of absence granted.

Henry F. Hoyt, major and surgeon, Vols., to accompany the 47th Inf. Vols. on the transport *Thomas* from the port of New York to Manila, P. I.

Frank R. Keefer, major and surgeon, Vols., member of a retiring board at Manila, P. I., sick leave granted.

William P. Kendall, major and surgeon, Vols., member of a retiring board at Manila, P. I.

R. M. O'Reilly, major and surgeon, U. S. A., from the Division of Cuba to New York City, reporting by telegraph to the Adjutant-General of the army for further orders.

Samuel Q. Robinson, major and surgeon, U. S. A., now on sick leave, is relieved from further duty at Fort Reno, Oklahoma.

A. H. Simonton, acting asst.-surgeon, from temporary duty at Fort Thomas, Ky., to Fort Robinson, Neb.

Benjamin L. Ten Eyck, captain and asst.-surgeon, U. S. A., from Fort Robinson, Neb. to New York City; thence to San Juan, Porto Rico, for duty in that department.

Samuel M. Walterhouse, lieutenant and asst.-surgeon, U. S. A., from duty at Forts Wood and Columbus, N. Y. to Fort Banks, Mass.

O. W. Woods, acting asst.-surgeon, from Albuquerque, N. M. to San Francisco, Cal., for duty in the Department of California.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Nov. 3, 1899:

Asst.-Surgeon R. Spear, detached from the *New York*, ordered home and granted sick leave for two months.

Asst.-Surgeon R. K. McClanahan, detached from the Naval Hospital, Key West, Fla., and ordered home and granted sick leave for two months.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Nov. 3, 1899:

SMALLPOX—UNITED STATES.

Arkansas: Batesville, October 26, 1 case; Little Rock, October 26, 10 cases; Monanna, October 26, 1 case; Newport, October 26, 2 cases; Russellville, October 26, 1 case; Tuckerman, October 26, 2 cases.
District of Columbia: Washington, October 21 to 28, 2 cases.
Georgia: Lumpkin, October 22, present; Richland, October 22, present.
Illinois: Chicago, October 21 to 28, 1 case.
Louisiana: Concordia Parish, October 11, 1 case; New Orleans, October 14 to 28, 1 case.
Massachusetts: Chelsea, October 21 to 28, 2 cases, 3 deaths.
Michigan: Benton Harbor, October 28, 10 cases; Grand Rapids, October 21 to 28, 1 case.
New York: New York, October 21 to 28, 4 cases.
Ohio: Cincinnati, October 21 to 28, 3 cases; Cleveland, October 21 to 28, 7 cases.
Tennessee: Bristol, October 1 to 13, 30 cases
Virginia: Portsmouth, October 21 to 28, 9 cases, 1 death.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, August 1 to 31, 1 case, 1 death.
Austria-Bohemia: Prague, October 7 to 14, 1 case.
Straits Settlements: Singapore. September 16 to 23, 1 death.
Turkey: Erzeroum, September 23 to 30, 3 cases.

YELLOW FEVER—UNITED STATES.

Florida: Key West, October 23 to November 1, 9 cases, 2 deaths; Miami, October 26 to 31, 14 cases.
Louisiana: New Orleans, October 14 to 28, 12 cases, 4 deaths.
Mississippi: Jackson, November 1, 6 cases, 1 death.

YELLOW FEVER—FOREIGN.

Argentina: Buenos Ayres, August 1 to 31, 1 case, 1 death.
West Indies: Curacoa, October 7 to 21, 2 cases, 1 death.
Mexico: Vera Cruz, October 13 to 26, 6 cases, 2 deaths.

PLAGUE.

China: Hongkong, September 9 to 16, 18 cases, 20 deaths; Nulchwang, September 30, present in epidemic form.
Portugal: Oporto, August 16 to October 15, 160 cases, 55 deaths.

CHANGE OF ADDRESS.

Beebe, C. A., from Marshall to 508 Main St., Fond du Lac, Wis.
Brener, C. H., from Colorado Springs, Colo. to David City, Neb.
Cook, W. G., from Grand Blanc, Mich. to Hoxie Bldg, Fort Worth Texas.
Cook, W. H., from Comanche to Miles, Iowa.
Connell, D. R., from Davis, Ill. to Unity Blk, Beloit, Wis.
Chenoweth, M. S., from Elbert to 329 Santa Fe Ave, Denver, Colo.
Dunn, A. A., from Dubuque, Iowa to Belmont, Wis.
Gradwohl, R. B., from 4330 to 4940 Washington Boul., St. Louis, Mo.
Grosskopf, E. C., from Wauwatosa to 245 36th St., Milwaukee, Wis.
Hull, A. R., from Beaver Dam to Sanatorium Waldheim, Oconomowoc, Wis.
Howard, A. Z., from Dartford to 39 North Park Ave, Oshkosh, Wis.
Hayhurst, W. C., from Westport to Flat Rock.
Haven, J., from Chicago, Ill. to U. S. Consulate, Basseterre, St. Kitts, West Indies,
Hale, A. B., from 69 22d St. to 6626 Monroe Ave, Chicago.
Hilleary, J. G., from Du Bois, Pa. to 1650 Tremont St., Denver, Colo.
James, E. A., from Fort Dodge to Lake City, Iowa.
Jordan, A., from Richmond, Va. to 2026 H St., N. W., Washington, D. C.
Lichty, J. A., from Markleton to 4636 5th Ave, Pittsburg, Pa.
Mulhill, J. C., from St. Louis, Mo. to Jackson Sanatorium, Dansville, N. Y.
Mooney, E. W., from Detroit, Mich. to Upland, Ark.
Mather, R., from 35 Church St. to 376 Michigan Ave, Detroit; Mich.
Nichols, C. M., from Delaware Water Gap to 1345 Poplar St., Philadelphia, Pa.
Quirk, H. W., from 1232 to 1257 Euclid Ave, Cleveland, Ohio.
Rieman, W. H., from St. Clair to 269 Dix Ave, Detroit, Mich.
Stribling, J. S., from Walhalla to Seneca, S. C.
Simmons, W. R., from Battle Creek, Mich. to Portland, Ore.
Sanderson, P. G., from 43 W. Alexandrine to 204 Warren Ave, Detroit Mich.
Scofield, W. K., from Stamford, Conn. to Cocoa, Fla.
Weitz, G. J., from Cleveland, Ohio, to Muncie, Ill.

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Original Articles.

HE ANTENATAL AND INTRANATAL FACTORS IN NEONATAL PATHOLOGY: AN ATTEMPT TO EXPLAIN THE PECULIARITIES OF THE MORBID STATES OF THE NEW-BORN.*

BY J. W. BALLANTYNE, M.D., F.R.C.P.E., F.R.S., EDIN.
Lecturer on Midwifery and Gynecology in the Medical College for Women, Edinburgh; Lecturer on Antenatal Pathology in the Medical Graduates' College and Polyclinic, London; Examiner in Midwifery in the University of Aberdeen; Honorary Fellow of the Glasgow Obstetrical and Gynecological Society, etc.
EDINBURGH, SCOTLAND.

On the dividing line between antenatal and postnatal athology lies neonatal pathology, a sort of unexplored rritory, a "No Man's Land," liable, however, to inursions from both sides, those of the weaker kind comg over the antenatal boundary. Between the surgical juries and maladies of the life that is after birth and e diseases and deformities of the fetus and embryo re situated the morbid conditions of the new-born innt, conditions which interest both the pediatrist and e obstetrician. Investigation of them has indeed gone n from both the pediatric and obstetric standpoint, ıt with more activity it has seemed from the former an from the latter. Nevertheless, it is well to bear in ind that the maladies of the new-born have relations ot only with the diseases which occur later but also ith the pathologic states which have happened earlier life. Just as neonatal life is the link between postnatal ıd antenatal life, so neonatal pathology is the link beween postnatal and antenatal. It offers problems for sotion which require that we take into account both the nditions which precede and those which follow birth; s study further is helpful in throwing light on these me conditions, hence its great value. That neonatal orbid states offer peculiarities of very marked kind ardly calls for proof. It need only be pointed out at in order to emphasize these peculiarities a nomenature has come into use which adds to the name of the isease the word "neonatorum." In this way the terms ephalhematoma neonatorum," "pemphigus neontorum," "icterus neonatorum," "melena neonatorum" nd many others have gotten a place in medical terminlogy. Sometimes the word is "nascentium," as in trismus nascentium," but the meaning is the same. hat peculiarities exist is not questioned. There is, owever, considerable doubt whether a sufficient exlanation of these peculiarities is yet possible.

THE NEONATAL PERIOD OF LIFE.

In every period of life physiology largely dominates athology; the diseases of the child or of the aged reflect in their characters the physiology of childhood or of old age. The age peculiarities of disease are in great measure the expression of the age peculiarities of health. The greater the difference between the physiologic conditions of two epochs of life, the greater will be the differences between their pathologic manifestations. The physiology of the new-born stands out very prominently from that of all the other periods of extrauterine life, and in like manner its pathology differs markedly from that of childhood, adult life, and age.

PHYSIOLOGY OF NEONATAL LIFE.

The period of life which has been termed that of the new-born infant may be regarded as beginning with the first maternal labor-pain and ending about the close of the first month of life. It includes, therefore, a period of time which may be called intranatal, that during which the infant is passing through the birth-canal; and another, truly neonatal, during which the infant's body is adapting itself to its new environment.

1. *Traumatism.*—In the intranatal period the infant is subjected to what must be, even under the best circumstances, a somewhat violent traumatism. Birth, without being abnormally difficult, is the traumatic transition from an intrauterine to an extrauterine existence. During the first month of life the organism is recovering from the effects of its birth-traumatism.

2. *Readjustment.*—Traumatism, however, is not the only occurrence in the physiology of this period of life. It is during these three or four weeks that the organs of the fetus have been taking up the work now thrust on them and formerly performed by the placenta. It is a time of readjustment, of adaptation, of alteration, of metamorphosis, and of transition.

Some of the organs of the infant are truly born at birth, in the sense that they begin then for the first time to perform the special functions for which they are intended. In a very evident way the lungs present an example of this organic awakening. The kidneys, also, and the intestines may be cited; but in them it is rather an increase in activity than a commencement of functioning that occurs. Other organs change the character of their physiologic activity; the liver becomes probably less a blood-forming and more a bile-forming viscus, and it may also take on the function of storing up mineral poisons, an act previously performed by the placenta. Yet other organs, such as the thymus, tend to become quiescent, and by and by commence to atrophy. The placental vascular system within the body of the infant, consisting of the umbilical arteries and vein, the ductus venosus, the foramen ovale, and the ductus arteriosus soon shrivel up or close, while the left side of the heart and the pulmonary vessels take on greater activity.

These, then, are the outstanding characters of the physiology of the new-born infant—its traumatic transference from the interior of the uterus to the external world, and its organic readjustment to suit its new environment—and it remains to be inquired how the pathology of this period of life is influenced by them.

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PATHOLOGY OF NEONATAL LIFE.

1. *Birth-traumatism Factor in Neonatal Pathology.*—That birth, even under circumstances that may be described as normal, is traumatic to the infant is not simply a matter of opinion; it is capable of demonstration. In a paper on "The Head of the Infant at Birth," read before the Edinburgh Obstetrical Society some years ago[1], I gave a series of cranial measurements which showed that five or six days require to elapse after birth before the head returns to the form which it had before the commencement of labor. To ascertain the shape of the unmoulded or normal head I took the head diameters of infants removed by the Cesarean section, of fetuses in the published cases where maternal death had occurred in the later months of pregnancy and where frozen sections had been made, and of an infant removed post-mortem from the uterus of a woman who had died of pneumonia before labor set in. It appeared that although the heads differed in actual size, their cranial diameters (maximum, occipitomental, occipitofrontal, suboccipitobregmatic, biparietal, and bitemporal) all had the same relative length. I then measured a series of heads at or soon after birth and found that these cranial diameters no longer bore the same relation to each other; in all of them there was a diminution in the occipitomental, occipitofrontal and suboccipitobregmatic diameters, and an increase in the maximum. In other words, the birth traumatism had produced a compression of the head in the suboccipitobregmatic plane and a compensatory enlargement in the plane of the maximum diameter. Every student of obstetrics knows how this "moulding" of the head is produced, and that it occurs in normal as well as difficult or delayed labors, being, however, more marked in the cases with a prolonged second stage. Further, I found at the end of about a week the head had again taken the normal form; the effects of the birth traumatism had passed off, and the cranial diameters had regained their antenatal relative length.

It may be said that head-moulding is so constant that it is not to be regarded as pathologic; but it is certain that if the same amount of distortion were produced by any cause acting on the infantile head after birth, it would by most people be looked on as morbid. Further, the cranial deformity resultant on moulding is often intensified by the presence of what is known as the "caput succedaneum," which in its morbid anatomy is simply a bruise, consisting as it does of a serous or serosanguineous effusion into the loose connective-tissue between the scalp and pericranium. It differs from the typical bruise, the result of a blow, in that the swelling does not occur in the region subjected to pressure, but in the area within the girdle of contact, which is the only part of the fetal body which is not under great pressure. None the less, however, the caput is traumatic. When the injury is to the effusion of blood as well as serum the result has been called a subaponeurotic cephalhematoma.

The deformity of the infant's head due to moulding and the formation of the caput has been cited as an instance of neonatal state entirely the result of the birth-traumatism; but other conditions which are less common and more distinctively pathologic are not wanting. Thus, facial paralysis in the new-born may be due to pressure of the contracted maternal pelvis or of the midwifery forceps on the facial nerve at the point where it emerges from the cranium at the stylomastoid foramen. Fractures of the long bones, dislocations, and wounds of various kinds and in various regions of the body may result from version and from manual and instrumental extraction of the infant. Hemorrhages into the cranium and spinal canal, into the kidneys, stomach, intestine, testicles, and liver, and into the sternomastoid and other muscles are, as Spencer[2] has ably shown, not rarely the results of the traumatism of birth; the relation of the effects of the hemorrhage to the labor may be less readily traced, as in the case reported by Spencer where intestinal obstruction proving fatal on the fourth day of life was found to be due to a hematoma of the cecum which had blocked the bowel.

In all these instances the relation between the birth-traumatism and the pathologic condition is a perfectly direct and simple one; it is not doubtful that the intranatal injury is the cause, and generally the only cause, of the neonatal morbid state. There are other maladies of the new-born which are equally directly, if not so apparently, due to labor; they are the intranatal infections. A well-known example is found in ophthalmia neonatorum, which is caused by gonococcic infection of the infant's eyes during the progress of parturition. A less familiar instance is septic pneumonia occasioned by the aspiration into the child's bronchi and lungs of vaginal secretions containing streptococci. Infantile stomatitis, vulvitis, and vaginitis sometimes originate in the same way. According to Kader[3], muscular torticollis of the congenital type is always due to lesions of the sternomastoid which become infected, and thus set up a myositis. It seems certain that further observations will disclose yet other forms of intranatal infection. It must also be noted that the infection may be multiple, for Bond[4] has reported a case in which the eyes, umbilicus, vulva, and skin glands of a newly-born infant all seem to have been infected by septic matter from an old lacerated cervix uteri during labor. Incidentally there is, in facts like this, a strong argument in favor of the thorough cleansing of the vaginal canal for the sake of the infant during the progress of labor. The cleansing should be as complete as if a hysterectomy were contemplated.

During labor, therefore, the infant being born is i danger of traumatism and of infection from the ma ternal parts; and in this way many of the morbid state met with in neonatal life are explicable. It remains t be noted under this heading that the traumatism wil predispose to the infection.

2. *Readjustment Factor in Neonatal Pathology.*—A has already been pointed out, the birth-traumatism is on only of the factors which impress on neonatal patholog its peculiar characters. There is also to be taken into a count the readjustment of functions rendered necessar by the change from an intrauterine, almost parasiti existence to an extrauterine and independent one. Th readjustment to the new environment, although norm in the sense that it is common to every infant born ali into the world, nevertheless verges closely on the pat ologic. It subjects the infantile organism to a seve strain. In this respect it resembles pregnancy; it is n pathologic, but it may at any moment become so. Th it often does pass over into the morbid is made distres ingly evident by the enormously high infantile mortali during the first month of life.

Some of the most noteworthy changes in the phy- ology of the new-born infant are associated with wh may be called the closure of the umbilical avenue of e- trance to the body. During fetal life the umbilical ve has been the channel through which supplies of oxygen and foodstuffs have reached the organism; with the establishment of pulmonary respiration and gastric digestion, and more immediately by separation of the placenta and the section of the cord, this mode of entrance is no longer required or available. It becomes, however, a danger, and, under certain circumstances, menaces the life of the new-born infant. It may become an avenue of infection. Streptococci may gain entrance either when the cord is divided and ligatured, or some days later, when the stump of it separates. It is this that gives to erysipelas neonatorum its peculiar characters. The infection s by the umbilicus, consequently the erysipelatous process is at first peri-umbilical and sub-umbilical in distribution. Streptococci may also pass in the umbilical vein o the liver; then infectious hepatitis with jaundice will no doubt follow.

Evidence of the influence of the readjustment factor on neonatal maladies is found also in the small power of resistance to the effects of microbes that the organism offers at this period of existence. Erysipelas neonatorum s very frequently fatal, and the extraordinary manner n which new-born infants succumb to microbic infection of all kinds is one of the most noteworthy of the pecuiarities of neonatal pathology. The maladies which have been named after von Ritter, after Winckel, and after Buhl, tetanus or trismus neonatorum, and Eptein's hemophilia of the new-born—which is closely allied to septicemia—all have a fatality which can only be fitly described as terrible. The low power of resistance to pathogenic microbes, shown by the neonatal organism, has been ascribed to many causes, in most of which, however, it is possible to discover the factor of he readjustment which physiologically follows birth. For instance, it is stated that the external defenses against microbic onslaughts are weak in the new-born. The physiologic desquamation of the cuticle makes it easier for the germs to thus gain entrance. The exact ause of this exfoliation is not indeed known, but it is easonable to suppose that it is due to the drying effect f the atmospheric air on the skin so long soaked in the iquor amnii—to a condition, in other words, which is part of the great readjustment process. In Ritter's disease, or as I have called it[5] "keratolysis neonatorum," he prominent clinical phenomena are looseness of atachment of the cuticle and exfoliation of it, along with pyemic symptoms; and it is, in my opinion, quite posible that the excessive exfoliation may be the cause ather than the effect or the concomitant of the systemic nfection. Again, it is affirmed, the internal defenses f the new-born are also weak, as is shown by defective phagocytosis and the absence or feebleness of the febrile eaction. Now, in postnatal life it is to the lymphatic glands and spleen that one looks for the formation of he beneficent phagocytes, and in the new-born these rgans are not yet specially active. The thymus and hyroid, which perhaps perform this function during inrauterine life, have ceased to do so actively, while the pleen and lymph-glands have not begun to do so to ny great extent; the readjustment is in process, but t is not yet complete. Finally, it has seemed to me hat the birth-traumatism may even here play a part, or it is well known that a period of special susceptibilty to infectious conditions follows injuries and surgical operations. At any rate, there is here further support f the statement that the peculiarities of neonatal pathology find their explanation in the birth-traumatism and n the physiologic readjustment following birth.

A very common condition of the new-born is jaundice. At present I refer only to the so-called idiopathic icterus neonatorum. Possibly no other disease has had so many pathogenic explanations attached to it as has jaundice of the new-born; yet in nearly all of them a reference to physiologic readjustment is prominent. For instance, it has been ascribed to blocking of the bile-ducts with desquamated epithelium, the epithelial exfoliation being analogous to the epidermic casting off to which reference has already been made. Stasis in the portal vessels and stasis in the bile capillaries from edema of Glisson's capsule, both in their turn due to the circulatory changes following the section of the umbilical cord, have been brought forward as possible causes. The suppression of the umbilical circulation produces lowering of the blood-pressure in the hepatic capillaries and so leads to the passage of more bile into the blood; this is another and apparently a very simple explanation. Theories, hematogenous as well as hepatogenous, have been advanced, and an increased destruction of red blood-corpuscles has found supporters. As a matter of fact, the condition of the blood in the new-born is a transition between the characters which are present in the fetus and those met with in the infant; its peculiarities are due to readjustment to adapt it to the new circulatory requirements. If by any chance the circulation retains any of its intrauterine characters, such as patency of the foramen ovale, then some of the peculiarities of the blood, e. g., large number of red cells, etc., remain.

It is unnecessary, however, to adduce further instances of the manner in which neonatal physiology tinges with its own peculiar colors neonatal pathology, and gives to it something which distinguishes it from the pathology of every other part of postnatal life. It is needful to pass to the consideration of another factor in the maladies of the new-born, to which I have as yet made no reference, to-wit, the antenatal.

3. *Antenatal Factor in Neonatal Pathology.*—Much that I have just said concerning the pathology of the new-born has been preparatory to the statements now to be made. I have been gradually leading up to the antenatal in the consideration of the neonatal. It need scarcely be insisted that any survey of the morbid conditions of the new-born which does not include a view taken from the standpoint of antenatal predisposition is incomplete and certain to lead to wrong conclusions. A very short and superficial study of the diseases which follow birth serves to demonstrate that all their peculiarities are not explicable by the birth-traumatism or by organic adaptation to environment or by both combined. There is a third factor, the antenatal, and it is of great importance.

PROJECTION OF THE ANTENATAL INTO THE NEONATAL.

It is true that, forensically, an infant is not alive until "it has manifested some certain sign or signs of life after it is completely born," but physiologically this is sheer nonsense. "The law does not account it murder to kill a living child while it is being born, nor to cause the abortion of a living ovum." This is law, it is not biology. Birth is not the beginning of life; it is the beginning of a stage of an individual life, the commencement, if you will, of extrauterine existence. The impress of nine months' very active life, intrauterine it is true, but none the less vital, is already on the infant at the moment of birth. Its effects, pathologic as well as physiologic, are projected into neonatal life: "As nine months go to the shaping an infant ripe for his birth." Some instances of this projection of the antenatal into the neonatal may now with advantage be brought forward.

THE ANTENATAL FACTOR IN CEPHALHEMATOMA NEONATORUM.

Reference has already been made to the effects of the birth-traumatism on the head of the new-born infant, and to the formation of what was sometimes called the subaponeurotic cephalhematoma; but the term cephalhematoma is more often given to another morbid condition having quite another mode of origin. About once in 300 labors there appears on the head of the new-born infant, and almost always in the neighborhood of the posterosuperior angle of the right parietal bone, a tumor having a soft center and a hard periphery. This usually develops on the first or second or third day after delivery, and is not uncommonly mistaken for a hernia cerebri; but it does not pulsate and pressure on it does not reduce its bulk or cause signs of cerebral compression. It consists of an effusion of blood between the pericranium and the underlying bone; the hard margin is caused by a deposit of new bone along the line of separation of the pericranium. Some weeks usually elapse before the swelling disappears. It is natural enough to associate this occurrence with the birth-traumatism, and it has been ascribed to difficulty in labor and instrumental interference; but it also frequently follows confinements which were both easy and rapid, as in a case[6] which I reported in 1893. The cause of the subpericranial blood effusion has been looked for and found in the circulatory conditions which exist immediately after birth, the establishment of respiration giving an increased impetus to the blood-current. Brittleness of the blood-vessels and easy separation of the pericranium from the underlying bone have likewise been adduced. These explanations, however, all fail to account for the rarity of its occurrence, and it has been found necessary to look to predisposing antenatal conditions. Several have been suggested; but reference need only be made to that with which Féré's name has been associated. He[7] found that at the site of predilection of the cephalhematoma, the posterosuperior angle of the right parietal bone, there were occasionally seen fissures running in the bone in a radiate manner, one toward the sagittal suture, another toward the lambdoidal. The sagittal fissure occasionally united with a similar one in the opposite side to form the fontanelle of Gerdy. To this arrest of development, as shown by defective ossification in the region "obelion," Féré looked for an explanation of the pathogenesis of subpericranial cephalhematomata. Even slight pressure on this part of the head which shows this anomaly will cause extension of these fissures and rupture of the small blood-vessels which cross them; effusion of blood will quickly take place under the pericranium, which is at this point easily separated from the bone. The fissural theory is also supported by the not infrequent association of the external cephalhematoma with an effusion of blood between the dura mater and the skull; the two communicate by the fissure or fracture. In this instance, therefore, the traumatism of birth is not in itself sufficient to account for the morbid condition; the antenatal has to be invoked; and a feasible explanation is found in delayed ossification of the region "obelion."

THE ANTENATAL FACTOR IN JAUNDICE OF THE NEW-BORN.

Ordinary jaundice of the new-born is usually explicable by an appeal to either the circulatory or digestive readjustment which follows birth; but now and again cases occur, often running on to a fatal issue, in which a satisfactory theory of origin is not to be obtained by a reference to neonatal states alone. In some of them it has been found on post-mortem examination that there is congenital obliteration of the bile-ducts; this condition is manifestly antenatal, but it is regarded by some as a primary malformation, and by other writers as due to intrauterine peritonitis. It can not be considered as yet settled whether the obliteration is caused by an embryonic or by a fetal morbid condition; but a very able setting forth of both sides of the question is to be found in Dr. John Thomson's monograph[8], published in 1892. In other cases the jaundice seems to have been caused by syphilitic hepatitis, or rarely by non-syphilitic interstitial hepatitis, also of antenatal origin. The importance of the study of the pathology of the fetus and embryo in such maladies is self-evident. From the purely clinical standpoint it is therefore well to bear in mind that icterus neonatorum, although usually due to passing neonatal states and so common as to be almost physiologic, is yet sometimes caused by antenatal conditions of grave import.

THE ANTENATAL FACTOR IN CONGENITAL DISLOCATIONS.

Another instance of the projection of the antenatal into the neonatal is found in the congenital dislocations. Within recent years there is probably no subject in orthopedic surgery which has been so much discussed as congenital dislocation of the hip. In my index to teratologic literature, for 1897, there were references to thirty-one papers, and in that for 1896 there were no less than forty-nine in which this malformation was dealt with. In importance these dislocations yield only to clubfoot. Unlike clubfoot, it is more common in girls than in boys. It is also apt to be hereditary, a fact which is in itself strong evidence in favor of its antenatal origin. Of course cases are met with in which violence, instrumental or manual, has caused dislocation of one or both hips during labor; but these are not instances of what is usually called congenital dislocation of the hip. In the vast majority of the reported cases of true, persistent, hip-joint dislocation, the preceding parturition has been neither difficult nor a pelvic presentation; further, it is usually not immediately after birth but some months later, when the infant begins to walk, that the dislocation becomes evident. The theory that the dislocation is entirely due to intranatal traumatism may be said at the present time to be abandoned. Of the theories that remain all look to an antenatal morbid state for the primary cause. According to one view the dislocation is due to external violence applied to the mother's abdomen during her pregnancy; according to another it is the prolonged but less active pressure of the amnion that is the pathogenic factor. An intrauterine destruction of the tissues of the joint is the leading feature in a third hypothesis; yet another regards all the changes as due to a primary alteration of the nervous system, causing either retraction or paralysis of the periarticular muscles. These are theories based on fetal pathology; but embryonic morbid changes have also been invoked, and several forms of arrested development of the acetabulum and surrounding parts have been adduced i explanation. Manifestly the settlement of the questio of pathogenesis would do much to show whether th surgeon should prefer the bloodless method of treatmen of Paci or of Pravaz or the cutting operation of Hoffa At any rate, the antenatal nature of the condition ex plains to a large extent the difficulty experienced in deal ing with it by either method.

THE ANTENATAL FACTOR IN CONGENITAL FACIAL PARALYSIS.

Congenital facial paralysis is, as has been alread stated, generally the result of the pressure of the fo ps in labor. It is then peripheral in type and common- affects all the three branches of the seventh nerve, th the result that on the affected side the eye can not be tirely closed nor the muscles of the forehead wrinkled. may also be of central origin when only the two lower anches of the nerve are paralyzed; in this case it may ill be due to birth-traumatism, but it may also have en caused by an antenatal morbid state. The last-med cases are those in which the paralysis persists for long time. The malady may be of the family type, as the two brothers recently reported by H. M. Thomas[9], whom it seemed to be due to antenatal absence of me of the facial muscles, namely those supplied by the cial nerve.

HE ANTENATAL FACTOR IN CONGENITAL FRACTURES.

The fractures which are met with in the new-born in- nt usually point to birth-traumatism; but there are so cases in which it is necessary to suppose the exist- ce of antenatal fragility of the bones. The extraction the child from the maternal passages may be the de- rmining cause of the fracture, but it is quite evident at the predisposing factor lies in such cases in defec- ve ossification of the bones. Especially is this clear hen the break occurs one or two days after birth and ithout any evident cause. Such a case was recently ought under my notice by Dr. J. S. Fowler of Edin- rgh. The child was apparently quite healthy when rn; it was an ordinary head presentation and no inter- rence was required. Four days later it began to cry d cried all night, and in the morning a great swelling the left thigh was noticed. There was a very distinct acture in the middle of the femur, not near an epiph- is. The break is now mending well, but with a ther large amount of callus. There was no history of y injury; there was no enlargement of any of the epiph- es; the limbs were well formed; and the child owed no signs of prematurity. It was significant, how- er, that the cranial bones exhibited very defective ossi- cation; although there was no increase in the size of e head nor any sign of abnormally high intracranial essure, the state of the bones was exactly like that met ith in hydrocephalus. Antenatal fragility seems the ly possible explanation of such a case as the one re- rded; when there are multiple fractures there can be doubt at all.

HE ANTENATAL FACTOR IN OTHER NEONATAL MORBID STATES.

The examples given by no means exhaust the patho- gic conditions of the new-born in which the antenatal evidently present as a dominating and determining ctor. Sclerema neonatorum is a malady in the causa- on of which atmospheric chilling of the body of the fant—a result of change in environment—is sup- osed to play an important part; but a study of all the cts has led one author to predicate congenital anomal- s of the lymphatics, and another to look for a predis- osing cause in antenatal lesions of the nervous system, d especially of the thermic centers. I have elsewhere[10] corded a case of rupture of the spleen without external olence in a two-days-old infant; the autopsy revealed a redisposing cause in splenic friability from fetal syph- is. Again, Thomson and I have reported[11] two cases f congenital prolapse of the uterus in which straining fter birth was no doubt the immediate cause of the dis- lacement, but in which several antenatal factors—form f the pelvis, lumbosacral spina-bifida, etc.—were evi- ently present as predisposing causes.

Examples of this projection of the antenatal into the eonatal might be multiplied; one more may be given. About five years ago I attended a healthy patient in her first confinement, and observed that her infant's skin was absolutely destitute of vernix caseosa; the nurse also, a woman of large experience, remarked on the extraordinary 'cleanness' of the baby. Within three weeks I had to deal with the most widespread and severe attack of eczema neonatorum that I have seen, and that notwithstanding the absence of any exciting cause in the feeding or general hygiene. The sister of the above child, born about two years later, showed a nearly identical condition of the skin at birth and developed eczema and intertrigo of a peculiarly intractable kind. That antenatal absence of the vernix caseosa was the cause of the neonatal eczema in these cases can not be affirmed, but the coincidence was sufficiently striking to be suggestive.

SUMMARY.

From all that has been said above, it is clearly evident that if the characters of the diseases of the new-born infant are to be understood it is essential that account be taken not only of the facts that the infant's organism has just passed through a period of traumatism and is passing through one of readjustment to meet new requirements, but also that during the nine months of intrauterine life which precede birth, it may have been the sphere of morbid processes which have left their impress on it. It may come into the extrauterine environment already diseased or malformed or predisposed to some pathologic development. Like pregnancy, neonatal life is an epoch which has a physiology in many respects peculiar to itself, and which borders very closely on the pathologic, tending very easily to pass over into it. In a certain sense the ordinary vomiting of pregnancy is to the uncontrollable form, as the ordinary "physiological" jaundice of the new-born is to pernicious icterus neonatorum. Further, just as every woman brings with her into her pregnancy the results of her past pathologic history, so the new-born infant brings with him, out of his antenatal life into his neonatal existence, the effects of any morbid processes which may have attacked him *in utero*. In this way the pathology of pregnancy and the maladies of the new-born infant are both invested with peculiarities. *The peculiarities, therefore, of neonatal diseases are not inexplicable, but are the direct outcome of the action of the antenatal and intranatal factors on the organism at this period of life.*

BIBLIOGRAPHY.

1. Ballantyne, J. W.: Trans. Edin. Obst. Soc., xv, 109, 1890.
2. Spencer, H. R.: Trans. Obst. Soc., London, xxxiii, 305, 1891.
3. Kader, B.: Caput Obstipum Musculare. Przeglad Chirurgiczny, iv, 93, 1898.
4. Bond, H. A.: Virginia Med. Semi-Monthly, xxi, 1074, 1895.
5. Ballantyne, J. W.: Diseases of the Fetus, ii, 204, 1895.
6. Ibid: Archives of Pediatrics, x, 848, 1893.
7. Féré: Revue Mensuelle de Med. et de Chir., iv, 112, 1880.
8. Thomson, J.: Congenital Obliteration of the Bile Duct. Edinburgh, 1892.
9. Thomas, H. M.: Jour. of Nervous and Mental Diseases, xxv, 571, 1898.
10. Ballantyne, J. W.: Archiv. Pediatrics, ix, 275, 1892.
11. Ballantyne, J. W. and Thomson, J.: Am. Jour. Obstet. xxxv, 161 1897.

SEROUS CYST OF IRIS FOLLOWING DISCISSION FOR MILKY CATARACT.*

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Cysts of the iris are generally of traumatic origin and follow punctured and incised wounds inflicted by various substances as well as incisions made for the extraction of cataracts and for the relief of glaucoma. While the great majority are the results of traumata, yet there are many well-authenticated cases of spontaneous cysts of the iris. They have been noted in infancy and mature life and in cases where trauma can be positively excluded. Rosenschweig[1] reports a case in an infant of 3 months. The cyst wall was lined with stratified epithelium. Dr. C. F. Clark observed two cases of serous cysts of the iris, one in a child, 22 months, and one in a woman 23 years of age, in which there was no history of trauma. Collins[2] cites two cases of cyst of the iris with no history of trauma. Some doubt has been expressed as to the spontaneous development of a cyst in the iris.

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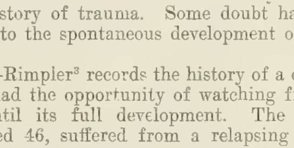
*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus. Ohio, June 6-9, 1899.

Schmidt-Rimpler[3] records the history of a case of cyst which he had the opportunity of watching from its inception until its full development. The patient, a woman aged 46, suffered from a relapsing superficial ulceration of the left cornea, accompanied by iritis, but there was no evidence of perforation and no history of injury. When first seen it appeared as a small black spot on the iris, the size of a hemp seed. In a little less than two years it had grown until it measured 5 mm. vertically and 7 mm. transversely. It was removed by operation, and six months later it had been reproduced and was again removed. The walls of the cyst were formed by the iris, which was apparently split into two layers and was lined with a layer of endothelial cells.

The author concludes that the cyst developed from one of the crypts normally present in the iris. It is probable that the crypt was occluded by the plastic iritis. The lymph streams continued to pour lymph into the cavity so formed, and thus it gradually increased in size. This seems a reasonable explanation of the origin of these idiopathic cysts which he considers lymphatic retention cysts. This case differs very materially from the majority of cases which are of traumatic origin and microscopically are lined with *epithelium.* In this one the cyst was lined with endothelium.



The literature on the subject of cysts of the iris is very abundant, and I shall not attempt to review it. The point of particular interest now is to ascertain how often this condition follows operations for cataract. The histories of the reported cases show that the great majorities of them follow punctured and incised wounds. So far as I can determine from the literature at my command, cysts do not often follow cataract extractions. I have referred to a few of them as bearing somewhat on the case I wish to present.

In 1867, Mr. J. W. Hulke[4] published a detailed account of nineteen cases of cysts of the iris. Of these, one followed an operation for discission, about seven months later, and the other a flap operation, but not until ten years and a half after the extraction. In the same, Mr. Brailey[5] reported a cyst of the iris occurring in a case operated on by Mr. Hutchinson for cataract. A year after the extraction a large cyst filled the outer half of the aqueous chamber. There was ciliary congestion and diminished tension. The eye was excised.

Gonella[6] reports a case of cysts of the iris in an ey which had been operated on eight years before for cat ract, by the v. Graefe method. A cyst filled the ten poral half of the anterior chamber, and a second ver small one was found on the pupillary margin. Ther was increased intraocular tension. Two operation were done, but vision was very little benefited.

Story[7] reports a case of cyst following a cataract ope ation where the removal of the tumor was followed by poor result.

Hirschberg[8] gives an interesting description of a operation for a cyst which followed an iridectomy fo glaucoma.

A successful case of cataract extraction[9] was followe nine months later by iridocyclitis and loss of vision. description of the cystic formation in the anterior chan ber is given.

Cross and Collins[10] report two cases of iris cyst fo lowing cataract extractions. In the first the eye wa lost seven months after the operation, by acute glau coma. A year later the eye was enucleated and the cy found in the interior chamber. In the second cas a dense secondary membrane formed and was discise seven months later. Sharp reaction resulted and th cornea became opaque and the degeneration of the ey progressed so that enucleation was done two years afte the first operation. A cyst was found in the anterio chamber.

Mr. Snell (Sheffield) reported a case of cyst in th anterior chamber occurring in a patient on whom h had operated for cataract fourteen years previously.

Wordsworth[11] reported a remarkable case where, afte the discission of a lamellar cataract, about three year later there appeared several small globular bodies pre senting a pearl-like appearance. Some of them were a tached to the edge of the iris, and others to an opaqu membrane in the lower portion of the pupilary spac while some were lying free in the anterior chamber.

Cysts of the cornea, although very rare, belong to th same category as cysts of the iris. Mr. E. Treache Collins[12] reports two cases of epithelial implantatio cysts of the cornea, one following a perforating woun with a shot, and the other following a cataract opera tion. In the latter the eye was enucleated a year afte the extraction. The globe was shrunken, the corne small, the retina completely detached, and the choroi on one side. In the center of the cornea was found large cyst lined by several layers of epithelial cells. relation to its formation he says, "in the puncture wi the cataract knife some of the epithelial cells from t surface of the cornea have been transplanted into i substance, and have proliferated. As they have i creased in numbers the central ones have become press upon, and consequently have broken down and liqu fied."

Alt[13] reported four cases of cysts in the cornea follo ing perforating wounds. In two cases the cysts we lined with uveal pigment and filled with serous flu One had perfectly smooth walls without pigment, and i the fourth there were a number of fine trabeculæ pa ing from one wall to the other. He thinks the latter w the result of a corneal abscess.

The time at which cysts develop varies very grea in different cases. In Mr. Hulke's experience, alrea quoted, it varied from seven months to ten years an a half, these being the extremes. In Snell's case it s fourteen years. An average period would be about o years. In some cases the cyst in an eye which is bl d from an injury is not discovered until it is examined after its excision. These cases are of but little interest as compared with those which develop in the anterior chamber where the transparent cornea permits a clear view of them. It is a matter of great interest to watch the development of these growths from their incipiency. This opportunity is not often accorded the surgeon, as he generally sees the cases after the cysts have developed to considerable size.

The case which I wish to present is as follows: Geo. R., aged 6, was first seen in November, 1879. At that time he had lamellar cataract in each eye, with yellowish-white nuclei surrounded by projecting radii. There was nystagmus and a very high degree of strabismus convergens. The left was not equal to the right and converged continuously. In May, 1880, the left internus was tenotomized and an iridectomy down and inward made in each eye. The visual result was very good and the position of the left eye greatly improved. He was not seen again until 1895, fifteen years after the iridectomies were made. He then had a well-marked milky cataract in each eye. Perception and projection were good in both. There appeared in the bottom of each capsule a deposit which was probably cretaceous. Discission was successfully done on each eye, the operations not being followed by any reaction. R. + 6 D. V. = 0.2; L + 9 D. V. = 0.2. Ordered same for distance and + 12 D. reading.

He was seen again in April, 1897, and reported that for several months his right eye had failed so much that it was then quite useless. As this was the better eye its failure caused him very great inconvenience. A secondary membrane had in the meantime formed in the pupil of the left eye, clouding it considerably. The cyst sprang from the lower and inner angle of the iris. It was rounded in outline and somewhat pyriform in shape. It measured 5 mm. transversely and extended into the anterior chamber so as to obstruct the lower half of the pupil. The inner margin of the cornea, adjacent to the tumor was slightly nebulous. The cyst was yellowish in color and semitransparent, having very thin walls. The development of the tumor was probably due to the discission of the soft cataract, and not to the iridectomy which had been made fifteen years previously for visual purposes.

The cyst was removed April 26, and the secondary membrane discised at the same time. The operation was done by making a free incision at the corneoscleral margin, with a Graefe knife. As the knife had necessarily to pass through the base of the cyst, it collapsed and its contents escaped. The cyst was then well drawn out and with it a limb of the iris, and cut off. The secondary membrane was then discised with a cystotome. A few days later the secondary membrane in the left eye was discised. The vision of the right eye was quite good for some time after the operation, but gradually it has grown worse and he now depends on the left eye. Judging from what he writes there is probably liquefaction of the vitreous and a slow degenerative process going on.

Cysts of the iris are of two varieties, the serous or transparent and the epidermoid. The latter are called pearl cysts and are filled with epithelium cells which have undergone fatty degeneration. The origin of these cysts is now well established, both by observation and experiment. Years ago Rothmund advanced the theory that they were caused by particles of epithelium of the conjunctiva or skin, which were carried into the substance of the iris by some penetrating substance, as a foreign body or a knife, and there proliferated and became the starting point of the cyst. This theory has been proven many times by experiments on rabbits' eyes, where particles of epithelium were implanted in the iris. Several cases have been reported where ciliæ have been driven into the anterior chamber and where later on cysts have developed. Rothmund[14], in 1872, reported three such cases.

On this point Fuchs says that a cilium with its follicle carried into the anterior chamber may be the focus or nidus of development. The epithelium finds favorable conditions for its nutrition and keeps on growing. "Afterward a cavity forms inside of it through the accumulation of fluid which presses the epithelial cells apart and converts them into a coating for the newly formed cyst cavity."

Berry states, in the second edition of his work on the eye, that a serous cyst is a kind of cystoid degeneration of the iris leading to the formation of a diverticulum at the angle of the chamber. Noyes says that cysts of the iris are the effect of sacculation in consequence of a wound or operation, or they result from the proliferation of cells introduced into the anterior chamber. DeWecker says that cysts may arise from posterior synechiæ, and Alt that the same may result from anterior synechiæ.

The visual and mechanical effects of cysts come on slowly but surely. As the cyst grows it steadily covers the pupillary area, as in the case I have reported, and gradually impairs vision. But the mechanical effects are far more important and dangerous. As the cyst enlarges it presses on the cornea and lens as well, if it is still *in situ.* From the former may develop opacity, and from the latter such a pressure as to displace it. Distortion of the pupil and atrophy of the iris surely follow. More than this, iritis, iridocyclitis and secondary glaucoma of the injured eye and even sympathetic ophthalmitis of the fellow eye may ensue. Hence the early and radical extirpation of the cyst becomes urgently necessary. Simple puncture will not suffice as the cyst will soon form again. Its thorough removal by a linear incision at the corneoscleral margin is required. The incision should be liberal enough to allow the operator to introduce suitable forceps or scissor-knife so as to remove the pedicle or a portion of the iris from which the growth has developed.

Each case is a law to itself, and will sometimes tax the ingenuity of the operator to devise a sure method of removal. In the great majority of cases the cyst is ruptured in its removal and, its wall being very thin, it is quite difficult to seize and draw it out entirely. If a piece of iris can be also drawn out, it makes the danger of return less probable.

BIBLIOGRAPHY.

1. Beiträge zur Augenheil.
2. Royal London Oph. Hosp. Reports.
3. Archiv. f. Ophthal. xxxv.
4. Royal London Oph. Hosp. Reports.
5. Ibid, 1879.
6. R. Acad. di Medic. di Torins, vol. vi, p. 109.
7. Trans, Oph. Soc., United Kingdom.
8. Centralb. f. Augenheil.
9. Guaita: Ann. di Othalm.. xvii.
10. British Med. Jour., 1892.
11. Trans. Oph. Soc., United Kingdom, vol. i.
12. Royal London Oph. Hosp. Reports, vol. xiii.
13. Archiv. Oph. and Otol., 1878.
14. Klin. Monatsbl. f. Augenheil.

DISCUSSION.

Dr. C. F. Clark, Columbus, Ohio—The experience of anyone must limit him to a small number of cysts of the iris. In fifteen years I have seen but two cases, one congenital and one probably traumatic, although the history was obscure. The congenital case I reported in Edinburgh in 1894, and there was only one man at that meeting who had had a case at all similar to it. It was a cyst of slow growth and the child was quite young when I removed it. The other case was one that brings out the single point that I wish to mention now, that is in reference to the treatment: The patient had had trouble for three or four years and on examination I found a large cyst with two lobes projecting into the anterior chamber. I suggested removal and believed nothing short of a radical operation would suffice, as I had been taught and as the books tell us. The patient was not ready for this, however, and I ventured to puncture. I made the puncture and withdrew an amber-colored fluid. I kept trace of her for several years and there was no recurrence. This cyst may have been unusual in its character and the puncture may have been a questionable procedure, but I want to put it on record that at times and in some cases puncture may be sufficient.

Dr. D. S. Reynolds, Louisville, Ky.—I recall three cases of cyst in the iris. One occurred in a young man of 22, who accidentally punctured the eye with the bit of a spiral auger. On removal of this cyst it was found to be filled with sebaceous matter. A second case presented the appearance of a sarcomatous growth of the iris, but turned out to be a cysticercus which had emerged from the posterior surface of the iris. The third had all the appearances of a serous cyst. I punctured it, but the yellowish fluid that exuded kindled an irritative condition that was followed by panophthalmitis, and within a few weeks the eye had to be enucleated.

CASE IN WHICH BOTH EYES WERE LOST FROM CHOROIDAL HEMORRHAGE SUBSEQUENT TO EXTRACTION OF SENILE CATARACT.*

BY ALBERT RUFUS BAKER, M.D.

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CLEVELAND, OHIO.

Mrs. Y., aged 63 years, with good general health, presented mature senile cataract of both eyes, but good perception and projection in all parts of the fields. The pupils were reacting actively to light and accommodation, tension normal, and she was in every way an apparently favorable case for extraction.

She entered the Cleveland General Hospital, Dec. 5, 1894, and on the following day the right lens was extracted without iridectomy. It was in every sense a smooth operation, excepting that one or two drops of rather fluid vitreous followed the lens. There was a round pupil, centrally located, no hemorrhage into the anterior chamber, and everything was in such good condition that, notwithstanding a slight loss of vitreous, I gave a favorable prognosis. The dressings were removed on the third, fourth and fifth days, and everything found progressing favorably; corneal wound united, anterior chamber re-established, no ciliary congestion; fingers counted readily.

On my visit on the morning of the sixth day, the patient said she injured her eye with her hand during the night, and had passed a sleepless night, with considerable pain. I found the anterior chamber filled with blood, and used hot applications and atropin to relieve the pain, but an iridocyclitis gradually developed with occluded pupil and loss of all perception of light. The eye became soft and after several months I enucleated it to relieve the pain.

Unfortunately an officious student opened the eye, much to my chagrin, and spoiled the specimen for careful study. The retina was detached and a disorganized blood clot filled the vitreous chamber, so that I have no hesitation in saying that at the time of the hemorrhage into the anterior chamber, there was also choroidal hemorrhage. Whether the hemorrhage was due to the injury, as the patient thought, or occurred spontaneously, is questionable.

On Dec. 11, 1895, Mrs. Y. returned to the hospital, to have the cataract removed from the left eye. After reviewing the literature of the subject at my command, I decided to make a preliminary iridectomy and extract the lens subsequently. There was no hemorrhage following the iridectomy, no reaction, and five weeks later I made extraction. I never made a smoother, cleaner operation; a perfectly black pupil, no hemorrhage, no escape of vitreous. I directed the orderlies to leave the patient on the table for half an hour before removing to the ward. A trained nurse was by her side all the time. The patient did not talk, laugh or move, but between twenty-five and thirty minutes after the dressings were applied, she screamed with pain. I was called at once and raised her head and gave her a hypodermic of morphin. I endeavored to soothe her without avail, and in a few moments repeated the hypodermic injection. The pain not being relieved, I removed the dressings and found the entire vitreous forced out of the eye. While I was doing this, the ciliary body and retina protruded, as large as the end of my finger, through the gaping corneal wound. It looked as though a person had grasped the eye tightly in the hand and squeezed out all its contents. I suggested immediate enucleation, but it was declined. I reapplied the bandages, and after pursuing a more or less painful course of a few weeks, with little or no suppuration, a shrunken globe about the size of a hazelnut remained.

I made a diagnosis of choroidal hemorrhage, and yet at no time was there any hemorrhage seen; the dressings were at no time bloodstained. The fellow eye having been lost from choroidal hemorrhage, and all precautions that suggested themselves having been taken to prevent its occurrence, and having talked the matter over with the patient and her friends before the second operation, they took the matter more philosophically than I. It was several years before I could speak of the case with any degree of composure. Since the time of that operation the literature of the subject has become quite voluminous, and judging by the number of cases reported, if there is any truth in the old saw that "Misery loves company" I should be quite joyful. These cases must, however, be of quite infrequent occurrence. This is the only one I have had in between four and five hundred extractions.

It is not an unusual occurrence to have a slight hemorrhage into the anterior chamber from the iris, during the operation. I have always looked on it as an annoying incident, but never considered it as in any way interfering with the securing of good vision. It has several times occurred to have a hemorrhage into the anterior chamber several days after cataract extraction presumably the result of an injury, sometimes leadin to sharp reaction and iritis, and in two or three cases partial, if not complete occlusion of pupil, but secondar operations have usually secured a fairly useful eye. I some cases the patients have not acknowledged an injury, but my experience has led me to think that traumatism has been received either consciously or unconsciously.

I have in mind the case of Mr. P. S., an ideal o Irishman, the anterior chamber of whose eye, on th morning of the sixth day after extraction, I found fille with blood. I insisted that he must have injured it, b he said he did not. The case pursued a very tedious course and it was only after several secondary operations that I secured a fairly useful eye. The patient disputed the amount of the bill, and it was only after several years and threatened litigation that I collected the full amount, and then the patient confessed that he got out of bed unknown to the nurse and ran against the door, injuring the eye.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

I have sometimes thought that hemorrhage into the anterior chamber occurred more frequently since we have been using cocain, and possibly that its use was a predisposing cause of choroidal hemorrhage, but a more careful reference to the literature preceding the use of cocain inclines me to think that the latter was more frequent then than now, especially during the period of chloroform narcosis, when cases were not infrequently reported as lost from hemorrhage, the result of vomiting. Several writers have said that we should decline to operate on the second eye when one has been lost from choroidal hemorrhage. I should very much prefer that the other fellow should do it, but it seems like a cowardly position to hold. The use of ergot and other drugs has been suggested previous to the operation, but does not promise much, if anything. The most promising way out of the dilemma is that practiced by Valude of Paris. When I suggested the title of this paper, I had the same thought in my mind; indeed, the purpose of this paper was to suggest the method of reclination, as practiced by our forefathers. I greatly regret that the thought did not come to me earlier, and it seems strange to me now that it did not, as I had my patient under observation for a year, fearing the result of the operation all the time. But as a matter of fact it did not occur to me until many months after I had lost the second eye, but as our eminent French confrère has already put the suggestion in practice, before the opportunity presented for me to do so—and I can assure you I am glad it has not—I will append a brief abstract of his case.

> He adopted the following procedure, recommended by Gensoul of Lyons, and modified by Desmarres, but originally derived from the Arabic and Egyptian physicians of olden times. He made a small incision in the sclerotic a few mms. outside the limbus, with a fine knife, and then introduced through the aperture thus made a small curette, with which he depressed the lens without risk of rupturing the capsule. The operation was easy and painless, the lens was held down in its new position for a few seconds with the instrument, and on withdrawal of the curette it showed no tendency to leave its resting place. The pupil looked quite black. After operation there never was a trace of pain, nor was there any vomiting such as some of the older surgeons used to describe. The patient left the hospital in about eight days, having V. with + 12D. = 1/3, with +15 D. She could read the newspaper; the pupil was black, there was slight tremulousness of the iris. With the ophthalmoscope could be seen a distinct cupping of the disc which was somewhat pallid, and some tortuosity of the vessels. This condition of a chronic simple glaucoma without elevation of tension, may very probably have been the cause of the inopportune hemorrhage in the other eye. Valude saw the patient again six weeks after the operation, when the eye was still well and quiet. Although one swallow does not make a summer, still Valude's success encourages one to hope that in a case such as his, where for some reason extraction can not be done, our resources are not exhausted, and reclination may give a good result which we may trust will be permanent. The recital of this eminently satisfactory case may serve to cheer a surgeon greatly when face to face with a very depressing state of affairs, and to encourage the adoption of a bold but wise endeavor.[1]

I also append a short bibliography of the recent literature of the subject supplementing that of Spalding in the *Archives of Ophthalmology,* Vol. xxv, No. 1.

BIBLIOGRAPHY.

Terson, pere: Sur un cas d'hémorrhagie sous-choroidienne partielle au cours d une operation de cataracte. Ann. d'Ocul., Paris, 1897, cxvii 350.

Terson, pere: Hémorrhagie sous-choroidienne partielle au cours d'une opération de cataracte. Arch. de med. de Toulouse, 1897, iii, 161–166.

Wilson, H.: Intraocular hemorrhage after extraction of cataract. Two cases. J. Ophthal. Otol. and Laryngol., N. Y., 1896, viii, 300–303.

Freyer, B. E.: Profuse hemorrhage subsequent to extraction of senile cataract. Am. J. Ophth., St. Louis, 1899, xvi, 33–38.

Valude, E.: Hemorrhagie expulsive apres l'extraction de la cataracte, reclinaison du cristalline sur l'autre oeill. Ann. d. Ocul., Paris, 1899, cxxi, 33–36.

Dianoux: Sur une forme rare d'hemorrhagie apres l'operation de la cataracte. Gaz. Med. de Nantes, 1897-98, 16; 138.

de Britto, V.: Hemorrhagia abundante da cavidade anterior e iridodyalise extensa durante a operacao da cataracta. Tribune Med. Rio de Jan., 1897, iii, 543–547.

Chevallerau, M.: One case; Vignes, M., three cases; Gorecki, M., one case: Discussion Ophth. Soc., Paris. Jan. 3, 1899 (Ophth. Review, Lond., vol. xviii, No. 210, 119–120, April.)

Wadsworth, O. F.: Hemorrhage attending extraction of cataract. Tr. Am. Ophth. Soc., Hartford, 1897, 141. Five cases.

Webster, D. (New York): One case. Ibid.

Green, John (St. Louis): Two cases. Ibid.

Nicati: Expulsions spasmodiques du vitré dans les operations de la cataracte. Contribution a la physiologie du muscle tenseur oculaire. Arch. d'Opth., Paris, 1897, xvii, 767–769.

Hulke, J. W.: Hemorrhage supervening on the operation of extraction of cataract; immediate excision of the eyeball. Tr. Path. Soc., Lond., 1857-58, ix, 364.

Jack, E. E: Intraocular hemorrhage during or shortly after cataract extraction. Med. and Surg. Report, Boston City Hospital, 1896, 7 s., 81–82.

Fromaget et Cabannes: De l'hemorrhagie intra-oculaire expulsive consecutive a l'extraction de la cataracte. Ann. d'ocul., Paris, 1896, cxvi, 118–123.

Trousseau, A.: Traitement de l'hemorrhagie après extraction de cataract par la suture sclero-cornéene. Arch. d'opth., Paris, 1897, xvii, 106–108.

Bloom: Graefe's Archives, July 19, 1898.

De Gama Pinto: Ann. of Ophth., Oct., 1897.

Sanford (Rec. d'Ophtal., Dec., 1896.) calls attention to the dangers of prolonged hemorrhage from the cut edge of the iris in cataract extraction, in albinos.

DISCUSSION.

Dr. C. W. Hawley, Chicago—I would like to offer a suggestion in regard to the operation on the second eye. In a case where the first eye is lost by internal hemorrhage, it is barely possible that the old-fashioned operation done by the traveling quack might be a source of relief. I have in mind an instance where I operated on a woman, whose mother had been operated on years before. A quack had introduced a needle of some kind and simply pushed the cataract into some other portion of the eye, and the mother received almost as good vision as the daughter had after extraction. Is it not possible that this might be done in cases where there is hemorrhage to be expected?

The expulsion of the contents from the eye reminds me of a case I had last fall. I operated on an old man, for simple senile cataract, and after having made an incision with the cystotome he contracted the muscles of the eye and face until he was blue, and there was no relief of the spasm until the entire contents of the ball was expelled.

Dr. J. L. Thompson, Indianapolis, Ind.—Just to cheer the Doctor up a bit I will say that about twenty-five years ago I had a patient, a woman, of about 300 pounds, with a very nice-looking eye which I thought I could operate on very satisfactorily. I made as pretty an extraction as ever I did in my life. About three hours later I was informed that she was suffering very much, and I had almost the experience described by Dr. Baker after his last operation. Again, ten years ago, I had just such another case, and I can sympathize with the Doctor for that awful sinking feeling in his stomach, for I know that such a case takes away one's appetite for days.

Dr. W. H. Dudley, Easton, Pa.—I would like to report an eye lost by intraocular hemorrhage a few years ago. The patient was a female aged about 60, with a mature senile cataract, functional examination and tension normal. A simple extraction was performed under cocain, without accident. A few moments later, while reposing the iris, the patient pressed the lids somewhat, when a large amount of vitreous escaped and the patient complained of great pain, which in spite of anodynes persisted for over twenty-four hours. A shrunken eyeball resulted and was enucleated a year afterward, and when divided it showed that a hemorrhage had occurred from the choroid, anteriorly, near the ciliary body. Soon after this I extracted a cataract from the other eye, and in doing so took the precaution to give her, a half hour beforehand, a dose of ergot, and shortly before operating a hypodermic of morphia. I operated in the bed in which she was to remain and she was not allowed to move for twenty-four hours. A good result was obtained.

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[1] **Valude: Ophthalmic Review, London, vol. xviii, 210, April, 1899; Reclination of Cataract in a Patient whose other Eye had been lost by Hemorrhage. Annales d'Oculistique, January, 1899.**

Dr. S. D. Risley, Philadelphia—I arise to suggest the importance of vascular disease as an etiologic factor in these cases of intraocular hemorrhage following operations which open the eyeball. I have published the report of one case in which this unfortunate accident occurred; a Morgagnian cataract in an aged woman with extensive atheroma and marked disturbance of the circulation. Immediately following the corneal section, the lens was forcibly extruded and followed at once by profuse loss of fluid vitreous. In a moment a stream of bright red blood issued from the wound, so profuse as to saturate the pillow. The patient suffered intensely from occipital pain. It is probable that the diseased intraocular blood-vessels ruptured when the support of the normal ocular tension was removed by the corneal section. A few months later she died suddenly from intracranial apoplexy. The presence of general atheroma is always an added source of danger in operations which lower the ocular tension suddenly.

Dr. D. S. Reynolds, Louisville, Ky.—I want to add one more case: a man of 48, in apparently good health, came to me with immature cataract in both eyes. I did a preliminary iridectomy on the eye which had the most mature cataract, for the reason that there was plus tension in both eyes. Less than a half hour after the iridectomy was done I was sent for, and found him in great pain. The dressings were saturated with blood, the side of his face covered and the bedclothing stained. Examination showed that a stream of blood was spurting out of the wound in regular pulsations. I enucleated the eye the next day, making an engagement to operate on the other eye when it became impossible to count fingers. Thirty days afterward he fell from his horse, dead from apoplexy.

SOME OCULAR MANIFESTATIONS OF ARTERIOSCLEROSIS.*

BY CHARLES H. BEARD, M.D.

CHICAGO.

I have selected from private practice five cases which fairly represent phases of ocular affection occurring in conjunction with degenerative changes in the circulatory system. I would state by way of perface that each one of the five individuals in question enjoyed a degree of good health and activity, and was characterized by an excellence of physique far beyond the average for their age, none having been under 55, and in every instance any evidence of other ailment save that of the circulatory system was practically lacking. Signs of morbid changes in the walls of the blood-vessels, however, with the attendant modifications in the size and action of the heart, were uniformly present and palpable. It may be stated, moreover, that these patients, to whom the drawings refer, have since been under observation for periods ranging in extent from about seven months to about three years, coming down to the present; that none has suffered any sort of damage to the fellow eye—in other words, the abnormality has been strictly monolateral, and so far as recent reports indicate, the defective eye has, in every case, become quiet, though in only one has the vision in the worse eye improved, viz., Case 3, from 20/200 to 20/50+.

Case 1.—The case of Mrs. Z., aged 64, already reported,[1] is again cited because of the striking ophthalmoscopic picture herewith exhibited. I think I have never seen another fundus wherein the sinuosity of the veins was so extreme.

Case 2.—Mrs. W., aged 55, a Jewess, was always well excepting a facial paralysis fifteen years before. She came for examination of the eyes and to be fitted with glasses, Jan. 14, 1898.

R. V.=20/70—; 20/20 with + 2 sph.

L. V. = 20/200; 20/40—with + 2 cyl. ax 75°.

The ophthalmoscope revealed change in the retinal vessels, suggestive of atheroma and arteriosclerosis, together with a few minute orange dots in the choroids. I ordered glasses as above September 20. She returned because for a day or two she had been unable to see with the right eye.

R. V. = 20/200, uncertainly.

L. V. = 20/40; with glasses as above.

The ophthalmoscope showed embolus or thrombosis of the right lower temporal artery just where it gives off the first good-sized branch, terminating in the lower macular region, with hemorrhages and white exudates over the affected area. Under potassium iodid, massage, cathartics, etc., these soon began to disappear, and vision had risen to 20/70, when, about November 25, fresh hemorrhages ensued at the same site. I advised the patient to go to Hot Springs, Ark., for the baths and massage, and to continue the iodid in moderate doses.

I next saw her on March 9, 1899, she having in the meantime been to Hot Springs, where she remained one month. The retinal hemorrhages and exudations were all gone, only degenerative changes showing where they had been.

R. V. = 20/50.

Her last visit was May 22, when the second sketch[2] was made. The right eye was now: V. = 20/50+. The first sketch was made at the time of the second hemorrhage, about November 25. The field herewith presented was taken Oct. 12, 1898.

Case 3.—Martin G., aged 63, a German, bookkeeper, came to be fitted with glasses, May 11, 1898. Thirty-six years ago he had syphilis, and was treated at his home in Bavaria, by an army surgeon, and soon cured, having been in good health ever since. Two years ago he had partial loss of function, beginning in the thumb and rapidly extending to the whole arm. This soon disappeared. Occasionally he has a prickling arise in the tongue and then in the right side of the nose and lips.

R. V.=10/200; 20/30—with+4s○+ 105c. ax. 50°.

L. V. = 10/200; 20/40 with —5 (antimetropia).

He had been wearing for his work, O. D. +2s, O. S.—4, and hence doing it all with the left eye, as the right eye required the additional of +3D for near vision The ophthalmoscope showed great meandering of the retinal vessels, and plentiful changes in their walls, much more pronounced in the left—myopic—eye.

I ordered spectacles as above, with +3D added, in segments, for near vision. After wearing the glasses for twelve days he came back to say that he had suddenly lost the sight of the left—myopic—eye. The ophthalmoscope revealed a tremendous neuroretinitis of that eye, with innumerable hemorrhages, etc. After the lapse of three weeks more, iridochoroiditis supervened in this eye, then secondary glaucoma on June 21, as a result of the mydriatic, perhaps. This was treated with eserin. By July 5 the eye had become quiet and the T normal. V.=perception of light. Media clear—fundus essentially unchanged. About this time the patient was persuaded by his friends to try osteopathy. January 6, 1899, I dropped him a line to call, and, after a few days, he did. The eyes were then quiet: T of left normal, but its lens had become opaque.

Case 4.—Mrs. C., aged 67, came for consultation and examination Nov. 1, 1898. Nearly two years previously she had run against a towel-rack, the rounded end of which struck just above the right eyebrow. The blow was not severe enough to cause any contusion nor ecchymosis, but from that time she was conscious of som

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[1] Ophthal. Record (1st Chicago number).

[2] Illustrations omitted by author's request.

isturbance of vision in that eye, and had constant in-
ination to brush something away, although it was not
ntil nearly a year after this accident that, in rubbing
ıe left eye, she discovered that the sight of the right
ad failed. R. V. = 20/200; 20/100 with + 2.
L. V. = 20/200; 20/20 with + 2.25.

The lower field of the left was almost lacking. The
phthalmoscopic examination disclosed in the right
ındus the conditions here depicted: Up and out from
ıe optic disc along larger vessel one could see what
ıust have been the vortex, or rallying point, as it were, of
ıe whole trouble, and one could be allowed to assume
ıat here, as a result of the concussion, a retinal vessel
as broken. The right fundus was normal, excepting
ıat the appearances of the retinal vessels told of degen-
ration of their walls, being very similar to those shown
ı the lower half of the drawing.

Case 5.—The cause of the ocular disturbance was ex-
raocular in this case: Mrs. H., aged 63. Two weeks
efore coming to me she went into a dark room and fell
ver a trunk, alighting on her hands, and not striking
er head, and was considerably shaken up. Soon after
ıe seemed to experience confusion in looking at objects,
nd at the end of a week observed that she saw double.
he had been suffering considerable pain in and around
ıe right eye, much worse at night. I found complete
aralysis of the right abducens; no other paralysis;
ght exophthalmus, engorgement of temporal conjunc-
val veins, and edema of right lower lid.
R. V. = 20/200; 20/20— with + 4.
L. V. = 20/200; 20/20 with + 4.

The ophthalmoscope showed right choked disc, left
nuous and irregular vessels, minute choroidal spots
f bright orange color, situated chiefly outward. I or-
ered the above glasses for constant wear, potassium
didd in augmenting doses and faradism and massage
 be applied to and about the right eye. By the middle
f the following December, the eye had made complete
ecovery, not a trace of the recent disturbances being
eft. Here the probable cause was hemorrhage external-
 in the orbit precipitated by the fall.

The object sought in calling attention to these cases
 to emphasize certain facts with regard to the eyes of
lderly individuals distinguished by well-marked symp-
oms of atheroma and arteriosclerosis—facts already
nown, it is true, but insufficiently studied and weighed,
 it would seem, by the average practitioner of ophthal-
ıology. The signs of advanced disease of the general
irculatory system are comparatively easy of recogni-
ion, and the ophthalmoscope affords singular facility
or the detection of analogous conditions within the eye.
Vith it we are brought in closer touch with the status
f the circulatory apparatus than is possible by any
ther means in any other part of the body. And it is
n the retina, which is the part most accessible to this
nstrument, that a relatively very slight accident to the
ascular machine can do more harm than could obtain
lsewhere in the entire anatomy. Aside from the great
elicacy of its construction, and the importance of its
unction, it is peculiar in that its vessels are so spread
ut and isolated, so nearly helpless in the matter of ef-
ecting anastomoses for the sake of surmounting such
bstacles, and which are readily established almost
verywhere else in the physical economy. For these rea-
ons it were well and wise to encourage not only univer-
al familiarity with all those things which are known
o be tokens of a morbid state of the vascular system,
ut also to inaugurate widespread investigation with
he view of finding new ones.

Did time permit, it would be a pleasure to review the literature of this theme, and to describe the diverse features by which the presence of the malady is revealed. Among the oculists who have done good work along this line are Goldzieher, Wegenmann, Sattler and Rhaelmann in Germany; Gunn and Williamson in Great Britain, and Hasket Derby and Harry Friedenwald, in America. Thorough acquaintance with the teachings relative to this subject, together with the demonstrations furnished by our various clientéles, might enable us as specialists to prevent many a grave disaster, not alone where the precious organ of vision, but where life itself, is concerned. With equal felicity we might, by timely counsel, avert an expulsive hemorrhage after the extraction of a cataract, a seizure of acute glaucoma, or a fatal attack of cerebral apoplexy. The field of possibilities here offered is, indeed, a rich one—possibilities in the way of diagnosis, of prognosis and prophylaxis, in our dealings with victims of the disorders under discussion.

A few words as to their general conduct in the avoidance of all unnecessary strains, shocks and jars, a few hints as to their diet and other habits of body, supplemented by the judicious administration of those selections from the materia medica which will serve to further our ends, and we may do wonders. So precarious is their state that it is enough to make one hesitate before handling them according to one's accustomed routine of practice, and to deplore the fact that greater light for his path, in the management of them, is not available. As above stated, I suspected that the use of atropin in Case 3 resulted in secondary glaucoma, and I have even wondered if the separate correction of the refractive errors in Cases 2 and 3, thus inducing an unwonted exertion on the part of these anisometropic eyes, may not have been a factor in the precipitation of the serious retinal lesions.

DISCUSSION.

Dr. G. E. de Schweinitz, Philadelphia, presented drawings to supplement those exhibited by the Doctor, prepared to illustrate some of the points made. These were drawn from patients having arteriosclerosis, but who were unconscious of their serious condition.

Dr. C. A. Veasey, Philadelphia—The ocular manifestations of this disease have been so thoroughly considered to-day that little remains to be said, except in the way of corroboration. Quite recently I have had the opportunity to study an unusually well-marked case, the patient being a man 32 years of age. Many of the patients are elderly people in whom we might expect such changes, but quite frequently the conditions are also seen in those of less mature age. A drawing made of my case, and here presented, shows exceedingly well all the changes so ably pointed out. The patient simply complained of being unable to see well, but the ophthalmoscopic examination showed marked hemorrhages throughout the fundus, two or three spots of atrophy (the sites of former hemorrhages), and at the points where the arteries crossed the veins the latter could seldom be seen on account of the thickness of the arterial coats. Beyond these points the veins were decidedly tortuous, and most of the hemorrhages had occurred in the neighborhood of these tortuous veins. In one of the superior veins the condition of constriction to which attention was called in a recent paper by Dr. Harry Friedenwald is especially well marked; when it is crossed by the artery its size is reduced to that of a mere thread, but afterward it regains its normal caliber.

I have also had the opportunity of studying, within the past two years, a case of marked arteriosclerosis of the retinal vessels in a man of 60, without any general symptoms of the disease. In the first case to which I have referred the urine and blood examinations were normal, but the vessels rolled under the fingers like whip-cords, and there was a double heart murmur; in the last case there were no symptoms other than those seen in the eye.

It is my belief that in all of these cases there should be a very very grave prognosis.

THE VEGETABLE NEUROTICS.*

BY GEORGE FRANK BUTLER, Ph.G., M.D.

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CHICAGO.

Dr. John Harley, in the Gulstonian lectures of three decades ago, discussed four vegetable neurotics which have occupied an important place in materia medica for more than twenty centuries. These drugs were conium, opium, belladonna, and hyoscyamus. To these might justly be added aconite and mandragora. These remedies have maintained practically their present positions since the renaissance of medicine. Aconite was very early employed by the monks in the treatment of fever, since under the canon law of the church they were forbidden to shed blood unless by special dispensation Consequently, around the ruins of the old monasteries are to be found wild plants of aconite, originally employed for medicine, and not for poison, as is usually, but uncharitably, believed.

Of these vegetable neurotics, the one most abused has undoubtedly been opium, its chief alkaloid having produced more misery, though it has relieved more suffering, than any other agent in the materia medica. It is not, however, with the therapeutic employment of morphin, but with one of the results of its abuse that I propose to deal in the present paper.

The close resemblance between morphin and certain products of nerve tissue change certainly tend to indicate that it is more easily transported by the blood than many other remedies.

It is not astonishing, therefore, to find, as Bureau and Ringer have shown, that it passes readily from the maternal circulation through the placenta, into the fetal circulation. About thirty years ago this fact was demonstrated clinically by Calkins, who found that the children of mothers addicted to the use of opium died of marasmus, unless nursed by the mother, or given opium when fed from the bottle. His observations were later corroborated by Erlenmeyer, F. H. Hubbard of New York, Kiernan and F. B. Earle of Chicago, Madison of Brooklyn, C. H. Hughes of St. Louis, P. C. Layne of Cincinnati, and others.

This congenital opium habit adds one more problem to obstetrics, since it involves both the treatment of the opium-using mother during pregnancy, and the infant after delivery. It requires considerable delicate acumen to guide a mother and child between the Scylla resulting from opium deprivation, and the Charybdis consequent to opium using. There is very little doubt that maternal use of this drug during pregnancy produces, as Talbot of Chicago has shown, degenerate children, but it is equally certain that the evils of deprivation are fully as great.

The management of the infantile opium habit, when congenital, is, however, much less difficult than that of the acquired habit during infancy through the use of soothing syrups, etc. The use, or misuse, of soothing syrup for infants is much older than generally supposed. Crabbe, in "The Borough," sung of it a century ago.

An artificial alkaloid of opium, apomorphia, has recently become very prominent in therapeutics. Its value as an emetic and a diaphoretic is so well established as to need no further reference.

Its efficacy in certain nervous conditions, however, resulting from its sedative action through emesis has received too little attention. There are excellent reasons for believing that, like tartar emetic, it may exert a sedative influence without producing vomiting. It was a common practice among the English laboring class, about four decades ago, to quiet the excitement produced by alcohol and the resultant motor restlessness by the administration of tartar emetic. Frequently the wife purchased this drug on Saturday night, and mixed it with the last dose of liquor taken by her husband on Sunday. The man, in consequence, usually arose on Monday in very fair condition to resume the week's labor, and better enabled to refrain from the use of alcohol during the week. Undoubtedly in the majority of cases this somewhat heroic treatment resulted beneficially, the untoward effect which rarely occurred being due probably to personal idiosyncrasies or to unknown pathologic defect. It is not surprising, therefore, that this method of treating alcoholism should be adopted in certain so-called cures for inebriety, apomorphia, however, being substituted for tartar emetic, because less dangerous. Apomorphia has been given, not only to secure sedation, but to produce a moral effect as well. The action of this drug, tartar emetic and ipecacuanha suggest a study of the relations of the emetics to sedation, especially when we remember the part which the gastro-intestinal canal plays in the production of toxins, leucomains, etc., underlying many conditions of motor restlessness.

Because of its use as a state poison, conium maculatum has been known in toxicology for more than twenty centuries. The description of the death of Socrates gives a very clear picture of its physiologic action.

The variation in the quality of the drug has occasioned much controversy as to its efficacy as a remedial agent, some physicians having advantageously employed it, while others have derived no benefit from its use. It has periodically dropped into disuse, only to as suddenly revive and become the subject of a therapeutic "boom." As the drug can not be copyrighted, it is obvious that the variable employment of the remedy is due to accidental features in the drug itself, rather than to a personal element of error arising from the mental makeup of the individual physician.

Storck, the greatest therapeutist of the eighteenth century, found conium of decided value, and his results were strongly corroborated by the Italian therapeutist, Viventius, who published an extended monograph on the subject in 1777.

Like many other organic drugs, conium has suffered in reputation from the unfounded belief that plants always afford like therapeutic principles, irrespective of the soil on which they are grown. As the culture-medium determines pathogenic or toxic activity, so does the soil in which a plant is grown influence its medicinal quality. Conium, for instance, grown in Scotland, or cultivated too carefully, is therapeutically inert. Another truth illustrated by this drug is that frequently the volatility of the ingredients of a preparation affects its therapeutic activity. This influence can not be restored entirely by standardization, since the volatile alkaloid when removed seems to be changed in composition, at least so far as regards its medicinal virtues.

Conium in the form of a good fluid extract, having the characteristic mouse-like odor, is almost an idea sedative for motor restlessness, since it leaves the brain clear, and does not disturb the heart. It is not surprising, therefore, that the remedy is well borne by children. It not only acts as a sedative, but exerts an

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erative influence, an action which is rather exceptional
h the class of remedies to which it belongs. To this
t-named property is probably due the influence which
in part exerts in controlling the untoward effects of
e bromids in epilepsy, an action which was first no-
ed by Dr. Harriet Alexander. The pathologic state
acute mania, and similar conditions occurring in
retic dementia, and other compound psychoses furnish
cellent indications for conium. In these cases it
ould be given in commencing doses of 15 minims, and
usually followed by prompt results. While it is not,
ictly speaking, a hypnotic, it produces rest and sleep,
allaying the motor restlessness which prevents slum-
r. For this reason it is an excellent adjuvant to sul-
onal, which, unless so given in divided doses as to
ure a cumulative effect, produces on the day subse-
ent to its administration, stupor and urine alterations
an objectionable type. Properly used, sulphonal is a
uable hypnotic, since, with proper management, the
ep habit can be produced by the gradual reduction of
e doses.

For reasons already given, it is evident that conium
peculiarly well adapted to correct the untoward effects
sulphonal. A good method of administering the two
nedies in combination is as follows: To 15 minims
fluid extract of conium, add 15 grains of sulphonal.
low the alcohol to evaporate spontaneously. Add
wdered licorice, if necessary, to make a mass which
ould be dispensed in three capsules, and adminis-
ed at 6, 8 and 10 p.m. The amount prescribed should
gradually reduced. As one dose of these capsules
l often secure sleep for two nights, it is advisable to
stpone the administration of the remedy until after
o'clock on the second night.

Owing to its sedative action on the motor mechanism,
iium is useful in all spasmodic conditions. It has
en found beneficial in spasmodic asthma and whoop-
g cough, applied locally in the form of a lanolin oint-
ent. Shoemaker recommends conium ointment in
uralgic conditions, and it has been found useful in
smenorrhea and menorrhalgia.

Lanolin is the best ointment vehicle, since the remedy
intended to be absorbed and petrolatum compounds
nder absorption. A desirable combination for this
rpose is half a dram of a good fluid extract of conium
oroughly incorporated with two ounces of lanolin.
is ointment will not only prove efficacious in the con-
ions already named, but is an excellent local remedy
the treatment of anal pruritus.

Conium and hyoscyamus often supplement each other.
ke opium, hyoscyamus has, as Harley remarks, "a
ent power to provoke insomnia and restlessness. Con-
m and hyoscyamus prolong, and, to some extent, in-
nsify each other's action. The akinesiant power of
nium predisposes to the hypnotic action of hyoscyamus,
ile the general sedative influence of the latter drug
sists the action of the former."

In some cases, therefore, the fluid extract of hyos-
amus is an excellent addition to the hypnotic com-
nation with sulphonal already cited. The fluid extract
hyoscyamus should be given in the same doses as that
conium. What is true of the combined action of
ese two drugs is true of a combination of conium and
lladonna.

Hyoscyamus is nearly as old a therapeutic favorite as
nium. The drug is eliminated almost wholly by the
dneys, having to some extent an alterative tendency.
moderate doses it decreases the irritability of the
eart, and serves to produce a state of rest of mind and body.

According to Harley, whose results are supported by later observers, the drug is of great value in the following conditions:

As a general cardiac sedative in the functional disturbance arising from emotion, the subcutaneous use of 1-48 grain of hyoscyamin sulphate exercises a speedy and beneficial influence.

In cardiac and pulmonary asthma it is an appropriate remedy, and when used subcutaneously will often bring immediate relief.

It is a powerful anodyne, but in the affections of the nerves of common sensation it possesses no advantage over atropia; on the other hand, it is more efficient than belladonna in neuralgic affections of the internal viscera, especially of the genito-urinary organs. Administered in any way, the drug is an invaluable remedy in renal affections dependent on the oxalic or gouty diathesis.

In acute and chronic nephritis, hyoscyamus may sometimes be substituted with advantage for belladonna.

In spasmodic affections of the uterus, bladder, and urethra, the antispasmodic and anodyne effects of the remedy are very decided.

The enuresis of young persons is speedily ameliorated and ultimately often removed by the judicious use of this plant. The drug is contraindicated in elderly people.

So eminent an authority as Kiernan claims that hyoscyamus, conium, chloral hydrate, and digitalis form an advantageous sedative mixture in conditions of excitement, whether of the maniacal or confusional type, or of epileptic character.

The use of the alkaloids of hyoscyamus in the treatment of insanity has not met with much favor among alienists. The hypodermic administration of them has in many instances produced serious cardiac depression and untoward effects.

Hellebore has subserved medical uses from very remote antiquity, chiefly as a purgative in the treatment of insanity.

Melampus, the son of Amythaon, is said to have cured the daughter of Proetus, King of Argos, of insanity, by purging her with hellebore. He had observed that goats who fed on hellebore were purged, and therefore administered it to the King's daughters, then wandering through the woods under the delusion that they were cows, curing them and receiving the hand of one of them as a reward. The drug came into quite general use, not only as a remedy for insanity, but as a part of the hygienic treatment to which intellectual and physical athletes subjected themselves prior to their trials of strength. Carneades, the Academic, took a course of hellebore treatment, preliminary to his contest with the Stoics.

The custom of using this plant for the same purpose as mineral waters are used to-day, spread from the Greeks to the Romans. Anticyra, famed as producing the best hellebore, was in consequence in great repute as a "watering place."

The chief use to which hellebore was put in medicine was as a drastic purgative, the effect of which was valued in insanity. Of the popular regard in which it was held many illustrations are furnished by the poets. Horace says of his "Happy Madman":

> "He, when his friends, at much expense and pride,
> Had amply purged with hellebore, his brains,
> Came to himself."

Persius, in his fourth satire, after telling Nero that he is incapable of fulfilling his duties as emperor, gives him the following advice:

> "Thou hast not strength such labors to sustain,
> Drink hellebore, my boy, drink deep and purge thy brain."

The peculiar effect noticed in insanity should have indicated that the drug must have a peculiar effect on the heart, yet even the 1890 edition of the "National Dispensatory" says: "Experiments on animals show that however introduced in the system, hellebore and helleborin are violent gastro-intestinal irritants, producing vomiting and purging with copious, bilious evacuations, and killing through exhaustion and convulsion. In man small and repeated doses of hellebore produce liquid alvine evacuations, and increase the menstrual and hemorrhoidal flows. The reputation of the medicine rests chiefly upon the cures attributed to it of mania and melancholia for which it was held in some sort to be specific. Possibly it may have been useful in mental disorders connected with constipation and congestion of the liver and abdominal organs, yet the form of insanity it seems to have benefited most was acute mania." These opinions are expressed despite the researches of Schroff, Helm, Marme, and Scattergood, who showed that the drug exerted a peculiar influence on the heart. From 1879 to 1881 experiments were made showing that the active principle of the drug was a valuable cardiac remedial agent. Dr Starr reported numerous instances in which hellebore hypodermically given acted as a cardiac and respiratory stimulant. Its powers were most marked in cardiac cases in which compensation had not occurred. Lauder Brunton claims that hellebore belongs to a class of cardiac agents which stimulate the heart muscle, "the stimulation being shown by increased energy of contraction, the rate of pulsation remaining the same, or becoming slower." He ranks it among the very highest of cardiac tonics when compensation is sufficient.

Its action on the kidneys is less decided than that of digitalis, and only secondary to its cardiac action. In cardiac neuroses helleborin is of considerable value. Kiernan has found it beneficial in insanity with marked emotional disturbances, accompanied with irregular action of the heart.

Bryonia, another old remedy, was first used in the treatment of epilepsy, hysteria and the furibund types of insanity. It is one of the many remedies supposed to be peculiar to the homeopaths. Storck considered it of value in certain pulmonary conditions, and Potter remarks that it is an efficient remedy in the second stage of serous inflammation, especially in pleurisy, pleuropneumonia, and pericarditis, after aconite has reduced pyrexia, to limit the extent of the effusion and to promote its absorption. For this purpose the drug should be given in small doses, and frequently repeated.

By many physicians bryonia is considered an efficient remedy in acute articular rheumatism to allay the pain and stiffness of the joints. It has been recommended in gastric fever, relapsing fever, congestive and bilious headaches, constipation, cholera infantum, and hepatic congestion. In dropsies of various origin, it acts as a drastic or hydragogue, purgative and diuretic.

From prehistoric times the mandrake *(Mandragora officinalis)* has enjoyed great reputation as a philter. For ages it has been reputed to have magic properties, and was probably referred to by Homer when speaking of the excellent remedy that Hermes gave to Odysseus to counteract the charmed draught administered by Circe: "Black is its roots, and milk white its flower, Moly 'tis named by the gods; for mortals 'tis difficult to dig it, but to celestial all is possible." The black, carrot-like root, which in its lower half frequently parts into two branches, and is beset by small hirsute filaments somewhat resembles the human form, whence the name given it by Pythagoras, andromorphe (manlike in shape). Columella called it the "Planta semihominis," half man plant. Pliny the elder says that "over-indulgence in it will cause death, but in moderation it produces a gentle soporific effect. An infusion of it is taken for snake bite, and is given before operations to dull the sense, for, in some instances, the mere smelling of it will induce sleep." Frontinus says that Marhable, when sent by the Carthaginians to subdue the rebellious Africans, took advantage of the soporific quality of mandrake to vanquish the enemy. "He placed the drug in wine, and feigning a retreat, allowed this to fall into the hands of the foe, who, drinking, fell into deep slumber and were easily captured." Dioscorides, Pliny and later botanists differentiate between male and female plants. Dioscorides calls the male "Morion," and the female "Thridacias."

According to the King James' version of the Bible, Reuben gathered mandrake, and his mother, Leah, with it bribed Rachel, their favorite, to permit her to enjoy Jacob's affections. The old chap-books turned the biblical story of the use of mandrake root as a philter by Leah. It therefore gained repute as a love potion in the period antecedent to the reformation. Drug gatherers and hunters carved the roots into shapes resembling little men and women, and often substituted the root of bryonia. They then placed grass and millet seed into the head part and buried these in moist ground until filaments grew, resembling hair. When dried, these figures were called mandrakes, and were sold at a high price for household deities. In secret they were richly dressed, received a share of each meal, and were bathed in wine on Saturday evenings. Like the "fern seed," they were thought to have the power of conferring invisibility. They made the poor rich, healed all diseases, and made their owner fortunate in love.

The fact that mandragora was one of the surgical anesthetics used by the ancients, and the further fact that it was given in the death wine to certain criminals before torture, so that the provision of the Roman law concerning torture should be humanely carried out, is shown in the interesting studies which B. W. Richardson and others have made of this drug. Like conium, it varies greatly in quality, and the causes of this variation have not as yet been clearly established. The drug has occasionally proved beneficial in cases of insanity where opium, chloral, etc., were contraindicated.

In conclusion, I will state that this paper is intended in the nature of suggestions for further study of the physiologic action of these old remedies. Drugs which have been so favorably known for centuries must possess important properties, and it is to be hoped that some enthusiastic and careful investigators will devote some of the time now given to the coal-tar derivatives to a closer and more scientific study of the older and possibly more valuable medicaments.

SULPHATE OF MAGNESIA.*

BY J. C. CULBERTSON, M.D.

CINCINNATI, OHIO.

In the blaze and glory of the heraldry of new remedie and elegant pharmacy, physicians are apt to forget or at least overlook, some of the old, tried and tru preparations. In diverting attention to one of these no intention is made to cast any slur on, or to detrac from, the value and usefulness of others.

Half a century ago Pereira proclaimed that sulphat f magnesia was by far the most commonly employed urgative, both by the public and the medical profession, and to state all the cases in which it is administered vould be to enumerate nearly the whole catalogue of nown diseases.

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Following in the same line of observation, Stillé ays it is taken incomparably oftener without a physiian's advice than with it, referring to it as a certain, afe and mild purgative. Similar observations have een made by all writers on our materia medica and I vish to echo their expressions, and say that I believe ulphate of magnesia is the most useful remedy in the ong list of medicinal preparations at our command. n the beginning of any treatment of any disease, to lear the alimentary canal of any irritant matter which nay be present, is nearly always called for, and to acomplish this purpose without weakening or compliating the case, there is no one remedy so effective.

Notwithstanding all that has been written and stated o favorably as to the use of this potent remedy, I am nclined to believe that it is not yet fully appreciated or its many virtues. It may seem strange and even resumptuous to say this, in view of all that has been aid, and in the face of the fact that sulphate of magesia has become a universal domestic remedy. Howver, as used by the people, it is only as a simple, safe urgative that it finds place in everyday family use. n this rank it holds precedence all of the time. As a urgative, its most common administration is in the norning, and in a dose of from half an ounce to an unce. This may be greatly improved on by giving alf a dram to a dram, administered in a pint of water. he mechanical effects of the water are beneficial and id in establishing increased peristaltic action of the owels. The remedy, when given in this manner, is eculiarly cooling; it is refrigerative. The same dose iven at bedtime rarely acts even as a laxative, but beomes a most excellent diuretic, and also stimulates he skin so as to literally rid the body of accumulations f detritus, wherever it may be located. This is a roperty possessed in a high degree by sulphate of nagnesia. In fact, it may be placed at the very head f the column of diuretics, that are certain, safe and nild in action.

For a cure of dysentery magnesia sulphas comes earer being a specific than any remedy at our comnand. In giving it, in this disease, from a dram to an unce may be used. If large doses are given the disharges are apt to be stopped too abruptly; a dram is etter than an ounce and may be repeated every hour or wo.

For relief and cure of sick headache, it should be iven in half-dram to dram doses every morning, disolved in a goblet of water. Equally good results or even etter may be obtained by administering at bedtime. he goblet or pint of water should be insisted on with very dose. The temperature of the water may be hat which is most agreeable to the patient, although I ave thought warm water, say 100 degrees, more potent han that at a lower temperature.

In cases of hemorrhoids and all congested conditions f the rectum and other pelvic organs, sulphate of magesia is almost a specific in a large number of instances; vhere the patient is troubled with flatulence, an addiion of peppermint to the salt solution is very effective n affording relief.

In gynecologic cases, and particularly in peritonitis, ulphate of magnesia is again found at the top of the olumn of useful remedies. As a cholagogue it is again in the front rank, but it is useless and time-absorbing to refer to special indications for this old standby. However, especial attention is directed to its value as a diuretic when given at night on retiring. The usefulness of so-called small doses in large draughts of water, preferably warm, is insisted on.

One word more. Physicians writing prescriptions for this remedy should always write for sulphate of magnesia, and should absolutely abandon the words "Epsom salts." They should not tell patients to take a specific amount of the drug, but should carefully write prescriptions for it, directing some carminative with it. The days of the familiar cognomen of "Doc" are drawing to a close, so let the dictum go forth that "salts" is a meaningless name applicable to several chemicals, and is not especially significant of sulphate of magnesia; that "Epsom" is the name of a town, and not an appendage of a therapeutic compound. Get rid of the domestic names for this invaluable medicine, and do it at once, by never permitting ourselves to use them, and thus retract what should never have been given to the people.

In this relation I take the liberty of stating that there has been entirely too much giving of our knowledge of remedies to the people, and it actually takes from them much of their specific value. Very many lives have been sacrificed at the altar of dangerous remedies in the hands of the laity, and the people should be educated to believe that disease in every form is a state for pathologic study, and that the simplest as well as the most complex remedies in our materia medica are potent for harm as well as for good when in the hands of those not qualified to administer. There has been entirely too much giving of ourselves away. These things are the secrets of our profession. They are essentially our bread and butter, they are our living, and everything, and should be dignified by our own treatment of them.

I do not presume to tell you much, anything, that is new in regard to an old and useful remedy, but rather make an appeal to take this therapeutic agent out of its present position as a domestic remedy and place it where it justly belongs, in the category of therapeutic agents of the greatest value and respectability.

THE PREPARATION AND ADMINISTRATION OF PILLS, TABLETS AND CAPSULES.*

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PITTSBURG, PA.

Pills, tablets and capsules are undoubtedly the most convenient and agreeable forms of administering medicinal substances. They spare the inconvenience of carrying bottles, spoons or medicine glasses, often almost impossible for business people or travelers. The tasting of bitter and nauseous remedies is avoided. Correct division of doses of insoluble substances can be more easily accomplished than in the liquid form of medication. Although these little bodies are usually made up of the most important and powerful therapeutic agents, they are often prescribed with less care than liquids of the same character.

Pharmaceutically speaking, pills may consist of three parts: 1, the active ingredients; 2, the excipient, and 3, the coating. The active ingredients may be alkaloids and their salts, resins, neutral principles, extracts, the heavy metals and their salts, or the products of coal-tar.

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As they are usually administered with a view of producing either a local or systemic effect in or via the gastro-intestinal canal, it is necessary they should become disintegrated in the stomach or intestines. They must do that regardless of solubility. I will embrace this opportunity to say that the term *soluble* used by some manufacturers to extol the quality of their pills or tablets, is preposterous and misleading. We can speak of soluble pills only when they are prepared from soluble ingredients. We should therefore restrict the term soluble pills or tablets to those that are actually soluble in ordinary solvents, while the term *disintegrable* could be applied to pills and tablets containing insoluble as well as soluble substances.

The disintegrability of pills depends on the nature of all their component parts. Among the ingredients resinous substances disintegrate slowly and with difficulty, while the heavy metals, alkaloids and their salts, and particularly the coal-tar products, disintegrate easily. Among the most common excipients, powdered licorice root, kaolin and most of the aqueous extracts disintegrate without difficulty, while tragacanth, acacia and other highly mucilaginous substances may swell slowly and thus keep the mass cohesive for hours. Excessive firmness of the mass also delays disintegration. Age is another important factor in the disintegrability of pills and tablets. The older they are the firmer and less liable to crumble they become.

As coating material, sugar is superior to gelatin, tolu, mastiche or acacia. Sugar coating is washed away rapidly by fluids, leaving the mass exposed much sooner than is the case when the coating consists of substances insoluble or having a tendency to swell in liquids at the temperature of the stomach.

It is beyond doubt that a catarrhal condition of the alimentary canal and motor insufficiency play an important part in retarding the disintegration of pills. On the other hand, normal gastro-intestinal juices will hasten disintegration by chemical affinity.

Tablets, the more modern addition to the art of pharmacy, are found in two forms: the compressed and the triturates. Compressed tablets are made by subjecting medicinal substances in the form of dry powder to pressure in dies, calculated to contain a definite number of grains or fractions of a grain of the drug alone or diluted with sugar of milk, cane sugar and sometimes starch. Compressed tablets are frequently coated with sugar.

Triturate tablets are usually composed of alkaloids or other powerful substances, sugar of milk or cane sugar, and a sufficient quantity of alcohol to form a mass. They are made in moulds without pressure. Being intended chiefly for hypodermic use, they are left uncoated.

All properly and recently prepared tablets, whether triturate or compressed, except those containing resinous substances, disinegrate far more readily than the average manufactured pills. But tablets as well as pills will become less disintegrable with age, and as a much longer period of time passes from the time pills and tablets are made by the manufacturer until they reach the patient than some physicians would think; we are not surprised to hear occasionally of pills or tablets being vomited or passed by the bowel, almost intact, a number of hours after being swallowed.

The tendency to squeeze everything from strychnin to cod-liver oil into tablets or pills is to be deplored; because medicinal substances have physical laws which the pharmacist can not transgress without diminishing, destroying, or altering some therapeutic virtues.

Capsules are made of gelatin or starch. Those prepared from starch are known in this country as wafers, konseals or cachets. Starch capsules are more suitable for large quantities of dry powder than either gelatin capsules or pills; they break far more readily in the stomach than gelatin capsules, which are liable to swell and float for a considerable length of time before becoming permeable and allowing the contents to fall apart.

Deterioration and substitution can be more readily recognized in wafers or gelatin capsules than in pills or tablets.

The practice of making a mass before placing the ingredients into capsules is not to be recommended. It is seldom necessary, and even when we have soft extracts a sufficient quantity of sugar of milk can be added to convert them into powder.

Pills, tablets and capsules are more or less inferior to liquids and powders as far as rapidity and certainty of action are concerned. Starch capsules are superior to gelatin capsules, and I would suggest for the former the adoption of the Continental name *capsulae amylaceae,* instead of the various copyright and fancy names.

Gelatin capsules are to be preferred only for drugs needing better protection against atmospheric action than can be expected from the porous wafers.

Ready-made pills are to be avoided; their formulas do not always fit our cases, and we are unable to increase or decrease doses, and omit or add ingredients as we do when we prescribe our own formula for each individual case. It is best not to prescribe a larger quantity of pills than will last about two weeks. Clinical results are surely better with fresh than with old pills. Coating as a protective is seldom needed for a short time, but for the purpose of disguising disagreeable drugs, a thin coating may be obtained by shaking the freshly-made pills in a mixture of cinnamon or nutmeg with sugar and talcum.

While only a few retail pharmacists are equipped with the necessary machinery to make compressed tablets on physicians' prescriptions, a large number have the apparatus necessary to make triturate tablets and all druggists are capable of making, extemporaneously, any formula for pills. The claims made by manufacturers that dispensing pharmacists are incapable of making pills accurately are not true. On the contrary, it is reasonable to believe, and experience has convinced me, that pills made in small quantities by a competent dispensing pharmacist are more accurate than those made in large quantities by ignorant girls, even when supervised by a laboratory chemist.

In closing, I will say that if ready-made pills and tablets are to retain the patronage of physicians, it would not be unjust to demand from manufacturers that every bottle of pills or tablets should bear the date on which they were finished, and instructions to exchange for fresh goods after from twelve to fifteen months. This is not intended as a crusade against pil manufacturers, but for the benefit of the physician and their patients.

According to press reports, numerous physician practicing on the strength of diplomas granted by th Independent Medical College of Chicago, will probabl be disqualified to continue their practice in the State o Michigan.

TREATMENT OF NASOPHARYNGEAL ADENOIDS.*

BY LOUIS J. LAUTENBACH, A.M., M.D., PH.D.

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PHILADELPHIA.

Last year at our Section meeting at Denver, during the discussion on the methods of removal of adenoid growths from the vault of the pharynx, I gave my views on the subject at considerable length, but somehow, although referred to in Dr. Mayer's closing remarks, they were not printed at all in the proceedings of our Section, and yet, since that time, I have learned of a number of operators, who, having heard of the discussion, have modified their methods, following in my footsteps. Especially in consequence of this omission, do I desire to present the matter to you in a more formal manner.

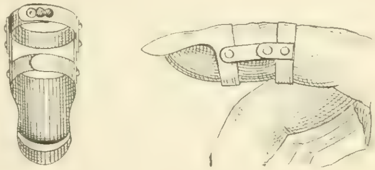
These adenoid growths vary considerably in size and consistency, at times occupying the posterior vault only; again the entire central region or extending laterally into the fossæ of Rosenmüller, and even over the Eustachian orifice—in consistency varying from a very soft, spongy, friable mass, to one fibrous, dense, with firmer resisting outer walls. It must be evident from the location of the growths that the sense of sight can be of little use in the determination of their nature or extent, or in their removal, it being necessary to rely almost exclusively on the sense of touch to give us any accurate knowledge on the subject.

We may examine the nostrils anteriorly by a speculum or posteriorly by the rhinoscopic mirror, but we can not learn much of these growths in this manner with any degree of accuracy, and we always complete our diagnosis by a digital examination, really depending entirely on this examination, which is made by seating the child on a chair, encircling its head with the left arm, and holding it gently but firmly to the left chest while you insert the index finger of the right hand into the mouth back of the soft palate, and thoroughly explore with its tip the entire region. To prevent accidents occurring to the finger, as well as to facilitate the examination, it is necessary, in some way, to protect the first phalanx of this finger, which can be best accomplished by wrapping one or two layers of adhesive plaster about it; over this put two or three turns, doubled, of a two-inch roller bandage, which is made secure by making one turn about the wrist, and as you are about to go around it again, pass the end under the band already in position. This examination is the one on which we accurately rely. It determines the nature of the growth, its location and extent.

You may recall that a year ago I made the statement that in operating on these cases I no longer employ an anesthetic, unless at the special request of the family physician, as the number of deaths from anesthesia in these cases has been so considerable that I do not feel that I can bear the responsibility; the condition not being serious enough to take such risks, and the operation is not sufficiently painful to justify it. Whenever necessary, I explain these thoughts to the parents or the physician, discouraging the incurring of the additional danger. I do not pretend to know why operations in this region seem to predispose to fatal results from anesthesia, but as it is a truth, even though not clearly explainable at present, it must be considered, and no needless risk taken. I apply the same rule to adults, as well as to children.

If you must operate on your patient while he is in a conscious condition, you must be prepared to work more rapidly and as perfectly, or more so, and without the numerous instruments and appliances you might be allowed to have scattered about were he unconscious—especially is this true with children, on whom by far the greater number of such operations are performed. With a child, you must win his confidence and retain it throughout the entire work on the nasopharynx. You can not do this if you have an instrument-shop scattered about you on your tables. In consequence of these facts, I early learned the value of the nail of the exploring finger in removing the growths, and in the few cases where the tissues seem so dense that the perhaps damaged or broken natural finger-nail can not remove them, I now use an artificial nail.

I have not seen a case in which I have not been able to reach every part of the post-pharyngeal space with my index finger which, as you will observe, is not as long as that of many others. I have never seen or rather felt a case of adenoma which has not been entirely removable by my finger-nail, provided the latter was in its normal condition and had not been injured and broken, as is so apt to occur with all of us in our active, busy, daily life.



Lautenbach's Artificial Finger Nail.

I use the artificial finger-nail as a substitute when, for any reason, my finger is sensitive or painful, or the nail has been broken or damaged, or the nail is too short or irregular. It is readily slipped over the terminal and middle phalanges of the index finger, to which it firmly attaches itself by spring rings, the cutting edge being supported in position by the finger-nail fitting into a recess on the inner side of the knife; it is jointed in structure so that the motion of the phalanges is not limited. The purpose of carrying it over to the middle phalanx is to give it added support and firmness and prevent the possibility of its slipping off while the finger is in the upper pharyngeal space; in this respect as well as in a few others, it differs from the artificial finger-nail of Darby, of Capait, L. Browne and others.

While formerly having used various curettes and forceps, especially those of Göttstein and Löwenburg, for the reasons mentioned, I have discarded them all and now for upward of two years have used the simple plan above indicated.

The very fact of there being a very large number of the various instruments used in these operations would indicate to me that their work is not perfect. There are, for instance, the ring knives and curettes of Meyer, Störk, Bosworth, Göttstein, Mackenzie, Hartmann, Delstanche, Pynchon, Seiss, and others, and the forceps of Löwenburg, Gradle, Cohen, Hooper, Major, Casselberry, and others, all of which have their advocates; indeed, some men use several of these instruments at the one operation, of course using them on the anesthetized patient, as no one could possibly bear such torturing appliances while conscious.

In order to indicate to you how simple the entire proceeding is, I will briefly detail the steps in the operation:

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A child being brought to the office, presenting any symptoms suggesting adenoid growths, I commence by examining the nose and throat and then cleanse both thoroughly and yet very gently, all the time getting the child's confidence by coaxing, if necessary, but far more often by a plain statement of facts such as, "This spray will taste better," or "This will be disagreeable, but it won't hurt," or again saying, "Yes, I know it is not pleasant, but it must be done, and it won't hurt." After this is accomplished I, keeping the child seated on a revolving chair, with arm-rests and back, will lightly put my left arm about the child's head, holding his head against the lower part of my chest, and then telling him I want to feel something in his throat, I insert the right index finger in the mouth, having in the meantime wrapped the first phalanx with adhesive plaster, putting a turn or two of a two-inch bandage over it, fastening the end at the wrist, I quickly insert it back of and over the soft palate, and explore the entire vault at once; then finding everything favorable, I clasp the head more tightly, bending it forward some over a spittoon, speaking to the child all the time to attract his attention as much as possible from the matter in hand, and then with my finger-nail I proceed to break the envelopes of the enlargements and continue to scrape out all the diseased tissue. When I get over to the region of the Eustachian orifices, unless the swellings be large or very hard, I press on the thickened tissues until I find the contents have entirely escaped; this is done so as to form no contracting cicatrices in this region. I do not leave the cavity until I have either succeeded in removing all of the diseased tissue, or I am convinced that my finger-nail is not strong enough to cope with the form of tissue present, or there is evidence that the blood and detritus are interfering markedly with the child's breathing—these two latter conditions are very unusual in their occurence, and, should they occur, it means that either the same day or the next, if possible, I will again enter the cavity and, if necessary, with the steel finger nail, remove every bit of diseased tissue discoverable. The entire operation rarely takes more than two or three minutes, and is followed by very little hemorrhage.

After the operation I clean out the throat and nose carefully, use some soothing ointment in the nose, and advise that liquid albolene be used in the nose and throat at home. Two days thereafter I examine the region, and if everything is well, I re-examine after a further period of three or four days, when, if healing has been perfect, the upper pharynx will feel smooth and soft and there will be no danger of recurrence. To my knowledge I have had but one case recur, and that was recently, in the 7-year-old daughter of a physician, on whom, when I operated, I was at a disadvantage in having my finger-nail short and badly curved, my steel finger-nail being at the instrument maker's. A few weeks later I operated again, and this time without recurrence.

In operations by the ordinary methods the finger examination must invariably be made to verify the diagnosis, and this examination is almost as severe and disagreeable as my operation. Then the child must be anesthetized and subjected to a long operation, which is far more apt to do damage to healthy parts in that region, because there is no feeling touch at the cutting end of the instrument. Then when the operation is supposed to be done, the finger must be used to see whether all the diseased parts have been removed, and the shreds or larger masses remaining must be removed by scraping with the finger or some steel instrument. If with the latter, then another digital examination must be made at once, and then if all is well the child is allowed to come to, and if he recovers from the anesthetic, he will have a horror of the doctor as well as the doctor's finger being poked into its throat, and the chances are the doctor will presume this case is well and make no further digital examinations, while the condition may recur. I have had quite a number of cases come to me with just such histories, in which recurrence has been the sequel and in whom I have been perfectly successful by my method.

In a few words, the method consists in the examination for adenoids by the index finger and, if discovered, their immediate removal, without general anesthesia, while the examining finger is in place, by the finger nail. This failing to remove them, then their removal is to be accomplished by means of my jointed steel finger-nail. This is followed by careful digital examinations of the post-pharyngeal region, about every second or third day for about a week, when, if no growth appears in the cicatrix, recurrence need not be feared. There is but slight bleeding at the time of the operation, and but little pain.

I consider such an operation a natural and common-sense one, and thoroughly surgical in every respect, and it is based on the principles of the thorough and absolute cure of the case in the shortest time possible, with the least inconvenience and danger to the patient and without the slightest possibility of doing damage to the parts operated on. I consider the ordinary operations unsurgical in so far as they subject the patient to unnecessary annoyance and trouble, while at the same time inviting damage to the parts operated on and subjecting the patient to needless danger of an anesthetic, to which in this special form of disease he is peculiarly susceptible.

DISCUSSION.

Dr. C. F. Theison, Albany, N. Y.—I am glad the Doctor has had such good results with his finger-nail as well as with the artificial finger-nail; but I would suggest most strongly putting all these patients deeply under general anesthesia. The fact that a few have died under anesthesia, should not condemn the use of it. We all remember the patient that died not so very long ago under chloroform. Ether is more safe. I never operate without getting the child deeply under a general anesthetic, and with a trained assistant to give it and hold the patient in position. I first use the Göttstein curette, and if all the adenoid tissue is not removed in that way, I supplement it with a proper pair of forceps. I think that is the only proper surgical procedure, and it can not be too strongly emphasized, that, if the operation is done without an anesthetic, the operator, unless he is differently constituted from other men, gets nervous, the child becomes nervous and cross, and the operation can not be so well done as if the child were under a general anesthetic.

Dr. Emil Mayer, New York City—This brings to mind a talk we had a year ago on the same subject, and I suppose we will come to the same conclusion. The reader of the paper laid very much stress on the statement that the child would be very much afraid of the doctor who had given ether and who woul from time to time poke his finger up into the posterior nare to see if everything was clear. I would not blame the child but I do not think the child would like the gentleman much better who also put his finger up there and also a sharp instrument, while the child was not under an anesthetic. I consider the introduction of the finger into the posterior nares a absolutely unnecessary. We can make the diagnosis of adenoi vegetations in several ways, but there is one way that is ofte forgotten and on which I lay stress before my class, to whic attention is rarely called. In the child that is reported t be a mouth-breather, whose general condition shows that h must have some glandular trouble, the posterior pharyngea wall has a number of small follicles present. These follicle look for all the world like that condition found in the adul and known as follicular pharyngitis. Why should you put your finger up there and simply hurt the child for no reason whatever? Regarding the anesthetic, anesthesia must be used properly and, like everything else, may or may not be harmful. It is so easy for us to give the child a few whiffs of nitrous oxid gas, and the operation may then be readily performed with any of the instruments and done absolutely aseptically, and the results will be satisfactory. We remove these growths. They are not to be looked on, when it is necessary to remove them, as being merely an everyday affair, but they are conditions that must be attended to, if at all, by some such procedure as I have just mentioned. As to using the curette, forceps, etc., you can see there what you are doing. But not every child with adenoid vegetations needs to be operated on. Then comes the question, what to do with the children that are bleeders. I had a child that came to me, on which the mother would not allow any operation to be done because she had bled considerably, and her brother and mother would bleed for hours even after the extraction of a tooth or any small operation. I gladly acquiesced and used the galvanocautery from time to time. It may be possible, in a case of that kind, that the only thing to do is to put the finger up into the nasopharynx and remove the tissue; inefficiently it may be, but the best we can do for that procedure is followed by as little loss of blood as possible. Otherwise I certainly believe that I am with the great majority who believe this procedure is unsurgical and liable to infection.

Dr. J. A. Stucky, Lexington, Ky.—I have performed a great many of these operations without anesthesia and a great many with it, and I do not think that I will perform any more without general anesthesia. With the child crying and struggling, if I crush off a piece of the adenoid it is likely to be sucked into the larynx and cause considerable trouble. I had that happen once and I would rather risk the anesthesia than risk that accident.

Dr. Thos. F. Keller, Tiffin, Ohio—My experience differs entirely with the writer as to the preliminary preparation for operation. I would never advise the removal of adenoid vegetations in the vault of the nasopharynx without the administration of an anesthetic. My preference in the kind of anesthetic for children is chloroform, for this reason: In the last two and one-half years I have administered this form of anesthesia exclusively, to 120 or 125 children without any ill effects. A great many advise ether while others use the A. C. E. mixture. Certain it is that experience differs along the same line of work.

Dr. F. J. Quinlan, New York City—We lay ourselves open to a great deal of blame by minimizing the significance of this operation for adenoids. This ordinary technic that I hear a number resort to, of doing the operation in the office and allowing the patient to go home, is a great injustice to ourselves. I will not operate on a patient in the office. If I have a patient, I tell the mother that the child must be profoundly anesthetized. I thus have the child completely under my control; the child is wrapped up, under a good light, and I can see every step of the operation. After I have removed all the tissue that the forceps can take away, I go in with the curette, and I do not tear away the whole pharyngeal wall. It is absolutely cruel to the patient to operate with a curette that is not as sharp as a razor. You do not want to tear the growths away, but cut them. I always have the patients sitting up. A great many operators place the patient on the back, but I never do that. The little pieces then hang down like icicles and they do not escape me. I have little fingers made of a turkish towel sufficiently resistant to go in and rub off the little parts that I can not feel. I got rid of them with the resistant material of the towel and in three or four days there is nothing at all left; it is perfectly clear and there is no tumefaction. I never flush the nostril with any antiseptic. We make a great mistake when we do this. Nature will take care of the cases and we need not be overofficious. Acute catarrh has often been the result of overmeddling after the operation has been done. Then I want to emphasize the importance of not minimizinz the operation, but doing justice to yourself and being absolutely in touch, and have everything there and do the operation masterly. If you put a low valuation on the operation, I do not think you do yourself nor your confrères justice. There is no operation in all medicine to-day that ought to stand higher than this, and that will nearer touch the apostle of God, so to speak. You simply place these patients on the steps leading up to the walk of life and give them the power to resist disease. Do the operation well and you are a benefactor to the human race.

Dr. Baker—We can do the operation that is under discussion, in our office, with cocain, and the way to do it is with the forceps and pull these off and not subject our patient to the risks of general anesthesia. One of the gentlemen has spoken of the patient sitting up when under a general anesthetic; that is against all surgical procedure. No wonder your patients die. You can not give an anesthetic safely with the patient in an upright position.

Dr. Emil Mayer, New York City—In justice to Dr. Quinlan I want to say that he does not give the anesthetic with the patients sitting up, but sets the patients up after they are anesthetized.

Dr. C. M. Cobb, Lynn, Mass.—If a patient has an adenoid, he has some obstruction to breathing. The adenoid tissue may be either on the posterior pharyngeal wall, in and around Rosenmuller's fossa, or it is in the vault of the pharynx. A great many of these operations fail because you do not get the mass out. You can not get it out with the forceps or the fingers. I have tried to get it out with forceps and finger nail, and I find that you may sometimes get it out, but you can not always do it. If the child does not need an adenoid operation, or you simply wish to relieve congestion by free bleeding, you can do it easily with the finger. But if the child really needs an operation, you must be prepared to remove the adenoid tissue wherever you find it. It is impossible to put your finger up there and tell how far the tissue goes. I have done a great many operations without ether and with ether, and I have seen them done in several throat hospitals where they do them with the steel finger blade, but they are then simply successful for a short time. You relieve the congestion, and the next time the child gets a cold he will be as bad as ever. I want to protest against doing slight operations, for when we start in to do the operation we ought to do it thoroughly.

Dr. W. K. Rogers—A general anesthetic should always be given when making adenoid operations. Without an anesthetic it appears to me to be a barbarous operation, and I have done it both ways a great many times. You might as well take off a man's leg as to take an adenoid out of a child's pharynx without an anesthetic. In order to avoid the blood interfering with the operation and at the same time relax the parts efficiently, it is my custom to put the child on the edge of the table, much as in the Sims' position, leaving the legs out of the question, with one arm behind the back and the face well over the edge of the table. Then, sitting in a chair, with an electric light on the head and one finger in the pharynx, I can see and feel what I am doing and at the same time have the field clear of blood.

Dr. Louis J. Lautenbach, Philadelphia—I would leave it to the physicians whose children I have treated in the past year for this very condition in this way, to judge whether the method is barbarous or not. Let those physicians who have had their own children operated on by the old method, under general anesthesia, followed by recurrence, and then had them operated on by my method, be the judges. Since the Denver meeting, I have had three such cases, the operation being followed by a complete cure. I operated on them without an anesthetic, and they have all been thankful indeed that no anesthetic was used. The doctor who sees the operation as I perform it is surprised at the ease and thoroughness with which it may be done. As I said in the paper, only one case has returned. These are facts. Theories are good things to go by until we know what the facts are. If you will give this the same attention that one or two others have given during the past year I think you will agree that the proposition is not an experiment, but a truth. I do not see how a doctor can possibly operate on a case of this kind and feel justified in allowing the patient to leave the office and go out into the world without having examined the vault of the pharynx with the finger. It is true that when a case presents itself to you in your office, in 99 cases out of 100—I was going to say 100 cases out of 100—you know whether you have adenoids and then you must conclude whether or not you will operate. If you let the patient leave the office without any examination when so readily accomplished, I think you have neglected one avenue of knowledge. I do not think any of the text-books will uphold an operation in such a case without a digital examination. How one can feel that it is right to let such a patient go without making an examination that will result in benefit to the patient, I do not know. I am sorry I can not give statistics of the number of deaths from anesthetics. But a few years ago in England fourteen deaths from chloroform occurred in 3 years. The number of deaths from general anesthesia must be very considerable indeed. I take another exception to a remark made here. I believe that adenoids must always be removed, whatever the general condition may be. It may not be that the condition present shows to our eyes any general systemic or nutritive change of the system, but it seems to me it is evident that sooner or later some disturbance must occur and you are justified in removing the cause of such probable conditions.

NATURE AND TREATMENT OF CUTANEOUS CANCER.*

BY A. RAVOGLI, M.D.
CINCINNATI, OHIO.

The heteroplasy, viz., normal epithelial cells in the wrong place, infiltrating the connective tissues of the parenchyma of the derma, or of the glands constitutes the essence of the cutaneous cancer, or epithelioma. It belongs to the class of the malignant growths on account of the persistent ulceration, of the tendency to recur after removal, of the infection which it produces in the tissues of the adjacent parts of the skin, and on account of the reproduction in the lymph-glands communicating with the lymphatic vessels of the affected part. It is not my object to develop the doctrine of cancers, which could not be done in the limits of a brief address, but I will only dwell on the nature of the cutaneous cancers and on their treatment.

Thiersch, in his remarkable work, published in 1865, on the epithelial cancers of the skin, distinguished two varieties from a topographical standpoint, one superficial, *flache Hautkrebs,* and another deep-seated, *tiefgreifende Hautkrebs.* These varieties of cancers are commonly accepted in the schools: 1, superficial, flat or discoid; 2, deep-seated or nodular; 3, the papillary.

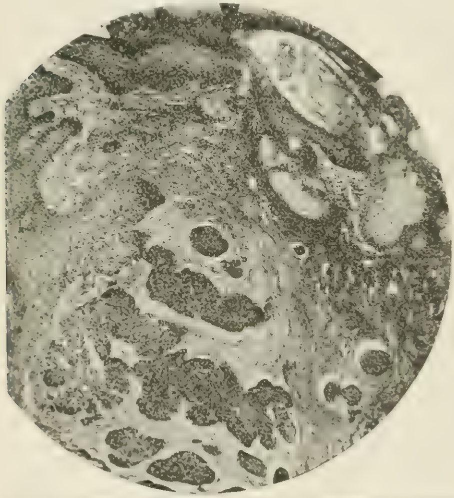

Fig. 1—*a*, epidermic cells from Malpighian layer infiltrating the derma; *b*, glands infiltrated with epithelial masses. Bausch & Lomb, ¼ obj.

I have lately had under my observation many cases of the first kind. In one case it began in a gentleman, 40 years of age, who had always been healthy, in the form of small, minute, reddish nodules to the number of three or four, one close to the other, about the size of pinheads, forming a semicircle on the temporal region. He had a slight itching sensation, which made him scratch. Some of those nodules got ulcerated, and on this account he came to my clinic in the Ohio Medical College. The surface was repeatedly treated with different caustics, but finding no result, we resorted to the excision of the diseased skin. The resulting wound was united with sutures, and in a few days healing was obtained. The affected skin was hardened in alcohol and sections made for anatomo-pathologic study. (Fig. 1.) You can see the clearest picture of the superficial epithelioma. With a small power the epidermis shows that it is deprived of its horny layer and that very little of the stratum lucidum remains. The Malpighian layer is increased, and the epithelial cells enlarged and increased in size, containing large nuclei in masses; they are coming down between the papillæ, infiltrating the interpapillary spaces. The same hyperproduction of epithelial cells is found in the sebaceous glands, forming round nests between the stroma of the derma, round or irregularly shaped, filled up with a large quantity of the ephthelial cells. The derma is affected only in its superficial portion. With a stronger magnifying power you see that infiltration to be made up of roundish pearls, consisting of an enormous mass of large epithelial cells, nucleated, disposed in a circular way, and surrounded by connective-tissue fibers, which form the base of the pearl. The connective-tissue fibers do not show much change, with the exception of the invasion of the epithelial cells in their midst. It is clear that from the rete mucosum the epithelial cells make their way down between the papillæ. In this specimen you can see that the blood-vessels are not much enlarged, and their tunics do not show decided alteration in their structure and in their condition.

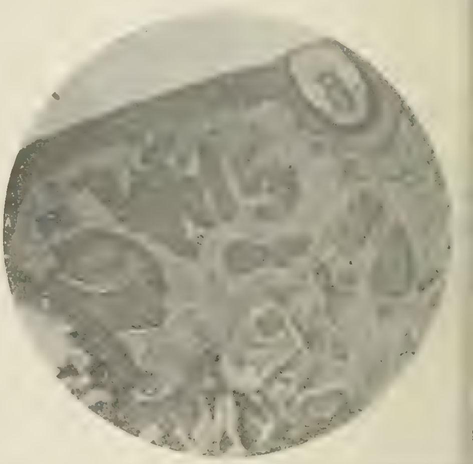

Fig. 2—*a*, epithelial cells from the Malpighian layer infiltrating papillary layer; *b*, masses of epithelial cells infiltrating the follicles of the skin. Bausch & Lomb, ¼ obj.

In a lady 59 years old I had occasion to observe the same kind of superficial discoid epithelioma, lasting for over thirteen years, which had begun, as the patient says, from a small mole, which she used to pick with her finger-nails. She came to consult me some five weeks ago. The affection consisted of a red ulcerated patch, round in shape, with hard infiltrated edges, reaching the size of a silver dollar, on the right cheek and on the right side of the nose. On the cheek there is already a deep canceriform ulcer, with granulations bleeding easily, and discharging a thin purulent matter, concealed in the natural depressions of this region. It has been already treated with caustics and with salves of different kinds, but no result has ever been obtained.

The lady allowed me to scrape one of the granulations in the ulcer of the nose, which after having been hardened in alcohol was made in sections. (Fig. 2.) It was n interesting specimen of cancer of the glands. 'he epithelial infiltration was all around in the uperficial derma. Its origin was from the Ialpighian layer and from the glands of the skin. The pithelial cells were coming down in the interpapillary paces, and the glands showed the infiltration of the pithelial cells in their parenchyma. In some points lready some of the infiltrating cells had underone some degree of degeneration. The blood-vessels 'ere free from epithelial infiltration in their tunics, nd it seems the whole infiltration of epithelial cells has s origin from the mucous layer of the epidermis and rom the epithelium of the glands. Like in the other ase, the epithelial cells are contained in nests in the interior of the glands, and no free infiltrating cells are ound in the connective-tissue fibers of the superficial or f the deep derma, like we see in other species of cancer, 'here the infiltration seems to start from the bloodessels.

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

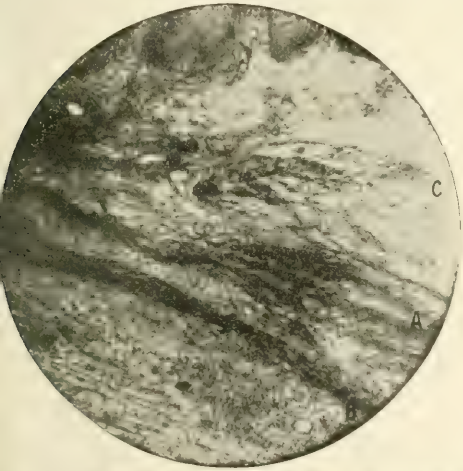

Fig. 3.—Deep carcinoma of the skin, *a*, elastic fibers dividing the erma; *b*, epithelial cells infiltrating the connective tissues of the derma; upper portion of the derma and papillary layer showing little infilation. Bausch & Lomb, $^1/_4$ obj.

The resulting ulceration of this kind of epithelioma sometimes so superficial as to involve only the papilary layer of the derma. It heals in the center and preads by its periphery. In some cases while healing p in different parts it forms a deep ulcer around the eriphery. This we find in the case of the gentleman epresented in the illustration, as a case of epithelioma r uclus rodens of the temporal region. This patient as been affected with the present ulcer for the past leven years. His photograph shows that a superficial lceration, with destructive results, has gone for a long me, judging from the scar remaining. In the last four ears the ulcer showed a tendency to grow deeper and has aused a loss of substance in crateriform appearance. 'he bottom of the ulcer is covered with abundant round ose-red, large and succulent granulations, with the edges ardened and thickened. In some places the ulcer has one so deeply as to show scales of necrotised bone. It round in shape, touching the eyelids and covering n area between the temporal, zygomatic and frontal egions, about the size of a goose-egg. The granulations hich cover the bottom bleed at any slight touch, and how deep impressions. They have, however, no tendency to capillary excrescence like we see in other cancers. The edges, hard and infiltrated, show the fresh ulcerations from the breaking down of the new epitheliomatous nodules. One small piece of the skin near the edge of the ulcer was taken off and hardened in alcohol and then cut in sections.

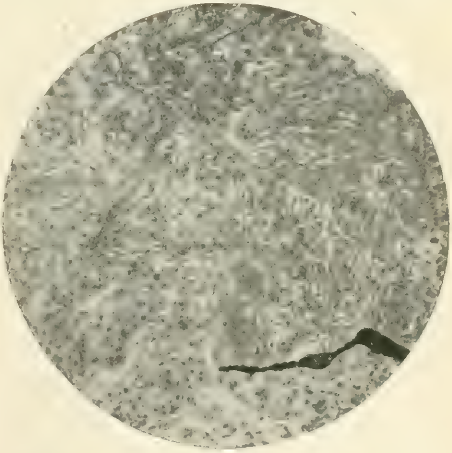

Fig. 4.—Epithelial cells infiltrating the connective tissues of the derma. $^1/_8$ obj.

In these specimens we find nearly the same appearances that we have found in those of the other cancers. The infiltration of the epithelial cells is greatly exaggerated. The immense quantity of cells is produced by the stratum spinosum of the epidermis which is directly connected with the masses of infiltrating cells among the papillæ. In this case we find that the inflammatory process is more advanced. There are many round inflammatory cells infiltrating the connective tissue. The connective-tissue fibers are already hypertrophied. Foci of degenerated cells can be seen in the midst of the infiltrating cells. The papillæ are enlarged, displaced and disfigured under the mass of the epithelial cells, which are crowding them up and filling all the spaces. In the lower layers of the derma, the infiltration seems due more to the inflammatory cells than to the infiltration of the epithelial cells. The fusiform cells are increased and swollen, and we can see a kind of new growth in the fibrillary tissue. The growth of the connective tissue, however, does not reach the degree of hypertrophy which we find in the deep-seated cancerous forms, but on account of its resistance it never exceeds the level of the ulcer. The long-standing ulcer, without much discharge, is a characteristic of this disease. The granulations are covered by epithelium, but they are deprived of the horny layer. The stratum spinosum with the layer of epithelial cells is well developed, as you can see from the illustration, and the epithelial masses from it enter in the connective tissue forming the stroma of the derma. Sometimes in some points the ulcer is covered with epithelial masses simulating a kind of whitish superficial cicatricial tissue. From this covering of epithelial masses and from the resistance of the connective tissues can be explained the absence of pain, which is remarkable in these rodent ulcers. This cancer, however, like any other, can take the same appearance of the deep-seated. It loses that peculiar consistency and becomes softer; the collagenous substance and the fusiform cells disappear, nests of plasma cells remaining. The lymphatic spaces become enlarged, and the connective tissue takes a succulent appearance, becomes edematous, the nests of the epithelial cells have a tendency to liquefy, and the whole mass takes the form of a common carcinoma.

The second variety of skin cancer is that called deep-seated or nodular epithelioma. In some cases the affection may be the result of the first variety, or it begins directly as such. A kind of deep movable papule imbedded in the tissues of the skin is felt at the first starting. It gradually grows to a tumor the size of a nut, hard, firm, elastic to the touch, with indurated prolongations in the subcutaneous tissue. The skin is elevated, glossy, pinkish in color, and covered with dilated capillaries. After a certain time ulceration takes place, sometimes on the surface; at other times breaking down in its center, destroying the epidermis and causing a deep undermined ulcer, surrounded by numerous other waxy nodules of the same nature.

In this variety of skin cancer the course is more rapid than in the first variety, and in a few years the lymph-glands are involved and death takes place through marasmic condition. Several unfortunate cases of this kind have been lately under my observation. I will limit myself to two cases, which I consider were types of this carcinoma.

H. O., married, was admitted to the Cincinnati Hospital, Aug. 31, 1898, for a papillary growth on the glans penis and swelling of the inguinal glands of both sides. The growth was in the form of a cauliflower and occupied nearly the whole glans. The patient had first noticed a small wart, scarcely eight months before. I recognized the malignant nature of the growth and of the affection of the inguinal glands. On September 5 the penis was amputated and the glands of both groins perfectly extirpated. The patient recovered very promptly from the operation, the wounds were healing satisfactorily, but a secondary cancerous nodule appeared on the external region of the left hip. The patient was advised to have the growth removed, but he left the hospital Dec. 6, 1898. On Jan. 4, 1899, he was again admitted to the hospital. He was very much emaciated and weak. On the penis and on the scars of the inguinal region, where the glands had been removed, no signs of recurrent carcinoma could be found. A large growth about five inches in diameter and one inch above the level of the skin had its seat on the outer portion of the left hip. It was broken down, showing large and crateriform deep ulceration in the middle, discharging a thin serum of very offensive odor. On January 6, Dr. J. C. Oliver operated on the patient. The whole tumor was removed, and four days later, after the necessary preparation, the whole surface was grafted with skin taken from the thigh. On February 6 everything seemed to be in a very satisfactory condition, but cancerous nodules began to appear all around the skin grafting, which in a few days attained the size of an English walnut. The grafting of the skin had taken very successfully; numberless cancerous nodules had developed.

The patient received injections of formalin, 1 to 5 per cent. in the cancerous nodules, of which we will speak later when treating of the therapeutic means for cutaneous cancer. Death occurred on April 2, from marasmus, the patient remaining for nearly one day unconscious. The post-mortem did not reveal any important ulceration in the different organs. The most important fact is that no secondary growths were found except in the skin and subcutaneous tissue, in the immediate locality of the penis, the inguinal region and the left thigh.

During life one nodule of the cancerous growth was excised, hardened in alcohol, and sections made for anatomo-pathologic study. The epidermis had very little of its horny layer and scarcely a trace of stratum lucidum, but the stratum mucosum and spinosum is well maintained; the papillæ do not show much alteration, in fact the superficial layer of the derma has very little infiltration of epithelial cells and the infiltrating cells are more inflammatory cells. However, some blood-vessels can be seen greatly enlarged, and around them we find small nests of epithelial cells surrounded by fusiform cells from the connective tissues.

Fig. 3 gives an idea of this queer kind of carcinoma and gives a peculiar feature of the elastic fibers which, in longitudinal bunches, divide the derma into two layers; the superficial, which we have just studied, and the deep, which is enormously infiltrated with large epithelial cells in a reticular way. The epithelial cells are large, following the direction of the connective tissues, containing from two to six nuclei bound and connected together as in Fig. 4. In this specimen with a small power can be seen a kind of small alveolar structure, which is more apparent with a higher power, as in Fig. 5, where the alveolar structure is clearer, each alveoli containing those large nucleated epithelial cells crowded together one upon the other. It corresponds to the description of the form called by Unna small alveolar cancer, where the alveoli contain no more than three or four epithelial cells of the glandular quality, and the alveoli in their disposition resemble somewhat the cerebral circumvolutions. In this case the connective tissue is reduced to less than its normal condition; mast cells and plasma cells are scarce in number. The blood-vessels are enlarged, and the epithelium of the intima shows a great proliferation. (Fig 6, ⅛ power.)

The vegetating form of epithelioma is nothing else than a variety of the deep-seated epithelioma, malignant and infectious. It is usually found in connection with other forms of carcinoma springing up from the cancerous ulcer, especially coming from mucous membranes. Its ordinary seat is the lips and the glans penis. The papillary growths project over the borders of the ulcer in the form of a cauliflower protrusion, very vascular, bleeding readily, spontaneously or in consequence of a slight touch. The lymphatic vessels become readily involved and the lymphatic glands show carcinomatous reproductions. They are capable, in three or four years, of causing death.

I will refer to a case of this kind which I had in my service in Cincinnati Hospital, and in which the patient died only a few weeks ago.

Wm. R., 39, years of age, born in Cincinnati from healthy parents, came to the hospital to be treated for an enormous papillary growth of the penis, scrotum and surrounding skin. Patient claimed that when 9 years old he fell from a ladder and caught the penis on an iron bolt and tore it. Some twelve years ago he contracted syphilis. Over three years ago the present affection began, in the form of a small hard pimple on the glans penis, above the meatus, not at all in connection with the scar of the already mentioned injury. Numerous warty productions appeared around the first until after six months from the appearance of the first nodule, he could not bring the foreskin over the glans. The production soon affected the whole skin of the penis and scrotum, often produced loss of blood, causing a remarkable emaciation.

It was a cauliflower growth involving the skin of the whole penis, which was adherent to the cancerous production of the scrotum, forming a round mass covered by large vegetations. The meatus was buried in the growth. The abdominal wall on one side and part of the perineum on the other was comprehended in the cancerous infiltration. Over the pubis was a large carcinomatous ulcer of the size of a half dollar. The subcrural and the inguinal glands were involved. The vegetations caused an abundant discharge with an offensive odor. At the slightest touch they bled profusely. The patient was exceedingly emaciated.

There was no possibility for any operation, and all that could be done was to limit the treatment to external applications and internal administration of tonics. The application of a solution of formalin, 2 to 5 per cent., for a short time every day, caused the necrosis of the papillary growths, which under a continuous bath of a solution of campho-phenique, sloughed off in a short time, bringing the whole mass down to nearly the normal condition.

An abundant suppuration began, with high temperature, gastro-intestinal disturbance; the patient became delirious and died.

The post-mortem revealed the carcinomatous production limited to the skin and subcutaneous tissue of the affected regions and to the lymphatic glands of the groins and the subcrural region. No reproduction of carcinoma was found in the internal organs. Liver, spleen and kidneys showed that peculiar yellowish color and flaccidity which we find in cases of death from sepsis.

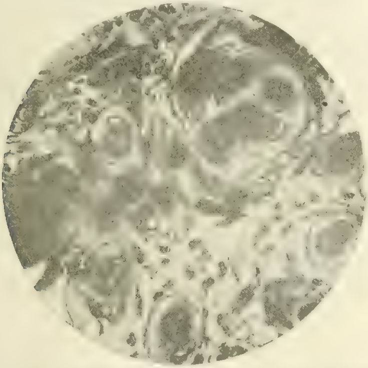

Fig. 5.—Large epithelial infiltrating cells surrounded by polynuclear connective tissue fibers. Immersion lens 1-12.

During life a piece of the affected skin of the penis was cut off, hardened in alcohol, and cut into sections for microscopic study. Fig. 7 with a small power shows the epidermis deprived of its horny layer, of which only shreds remain. The corpus mucosum hypertrophied, in a great mass, covers a quantity of elongated papillæ. Unna denies that the papillæ have anything to do with the old normal papillæ of the derma. In my specimens it is clear that these papillæ have nothing to do with the normal papillæ, and you can see very clearly from the layers of the superficial derma spring up three and more papillæ with branches like trees, showing one to be the stem, from which others are coming up at different degrees of development. The papillæ are made up with connective-tissue fibers and the connective-tissue corpuscles are enlarged, but no epithelial cells could be found in their midst, so that they are simple connective-tissue growths without cancerous stroma. In the larger papillæ blood-vessels are seen in longitudinal arrangement, running into the papillæ. The epithelium is enormously increased on the top and in the interpapillary spaces; the epithelial cells largely increased in size are crowded greatly out of proportion. The cells which form the basal stratum are irregularly disposed. They do not maintain their cylindrical appearance, but are epithelial masses of different shapes. The connective tissue of the derma is greatly hypertrophied and many leucocytes are found infiltrating its meshes, showing a great relation to the lymphatic spaces. The blood-vessels are perceptible in great numbers, much enlarged and surrounded by infiltration of epithelial cells, and we can say that around the blood-vessels we find the true areolar stroma of the cancer. The cancerous infiltration is not so abundant, but its malignancy is superior to any other kind of cancer on account of the prompt affection of the lymphatics and of the lymphatic glands. I think that the luxurious growth of the papillæ is only the result of the hypertrophy of the connective tissue, through the irritation and the abundance of the vascularity, which causes the hypernutrition of these tissues. The papillary growth is not at all characteristic of the carcinoma, and really the reproductions of the carcinoma from a papillary one are of the nodular variety. For this reason I believe it is not exactly necessary to consider the papillary cancer as a separate family of these tumors, but only a variety of the nodular or deep-seated leaving intact the fundamental classification of the cutaneous cancers, in superficial and deep-seated.

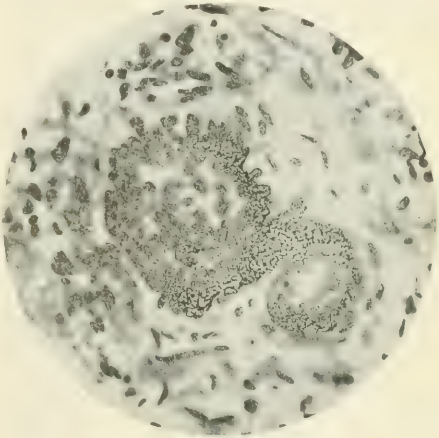

Fig. 6.—Epithelial cells, proliferation arising from the intima of the blood-vessels. $\frac{1}{8}$ obj.

From the few anatomo-pathologic notes which I have given above I think that the most natural distinction of the epithelial carcinoma is the superficial, beginning its development in the superficial layers of the papillary layer, and second the deep-seated, nodular in the dermatologic sense, developing in the deep layers of the corium and affecting the surface only secondarily. I find that my ideas on this subject are in accordance with those expressed by Ernest Besnier and Dayon in the notes to the third edition of Kaposi. Unna[1] very wisely objects to the mentioned distinction of the cutaneous cancers, believing it to be not only unnecessary but also dangerous, on account of the confusion of the different forms already brought about. He claims that some authors have considered forms of cancer of a destructive nature, like ulcera rodentia, as superficial and benignant. Indeed, the spreading of the cancer in the surface of the skin, the ulceration, the degeneration of the epithelial cells, are not enough reasons to authorize us to make the distinction in flat and deep-seated. Any cancer malignant in nature, tending to metastasis, producing cachexia, is deeply seated, and yet every cancer has had an innocent local period, in which it was more or less superficial or flat.

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[1] Die Histopathologie der Hautkrankheiten, Berlin, 1894.

I find, however, that the distinction of the cutaneous cancers in superficial and deep corresponds much better with the clinical observations and with the pathologic alterations. We have seen that in all the superficial cancers the derma is affected only in the most superficial layer, that the epithelial cells come down from the stratum spinosum of the epidermis and like indentations force their way between the papillæ, while in the second class of cancer we find the superficial layer of the derma little or not at all affected. The epidermis has no active part in the production of the epithelial cells infiltrating the tissues, but they are found in large quantities in loculi formed by the connective-tissue fibers in the deep layers of the corium. I find in my specimens that the production of these epithelial cells is greatly connected with the blood-vessels, as the intima shows a great proliferation, and the infiltration of these cells is more abundant around the blood-vessels.

In my opinion the distinction of the epithelial cancers in superficial and deep-seated clinically gives us a clew for the prognosis and also for the treatment.

The sebaceous glands and also the sweat-glands are affected in their epithelium, and the glands are sometimes changed in a carcinomatous mass. Case 2 shows clearly the stroma of the gland disappeared and changed into a mass of epithelial proliferation. But I think that it would be rather difficult to base a distinction of the cancer on the different organs of the skin affected, and would not be of any benefit for clinical purposes.

The papillary cancer or cancer vegetans, which is so malignant, which so soon brings lymphatic cancerous reproductions, which in a short time causes cachexia, has to be considered only as a variety of the deep-seated cutaneous cancer. The papillary hypertrophy, the epithelial vegetations, are more secondary lesions than primary. In my photographs of the papillary cancer you have seen an enormous growth of the papillæ and hypertrophy of the connective tissues, but the epithelial infiltration you find mostly in the deeper layers of the corium and around the blood-vessels.

For these reasons I believe that this simple primary distinction of the cutaneous cancers is useful for the clinician, and all the other varieties based on the histology of the cancerous productions, on the form of the epithelial cells and on their disposition, are only of a secondary interest. In my specimen of the superficial cancer you will see that in every one there is the alveolar disposition of the connective tissues. The epithelial cells are completely surrounded and contained in loculi formed by the connective-tissue fibers. This peculiar feature is the reason that this kind of cancer can remain for many years, spreading very little, and producing no infection in the lymphatic glands. This is the reason why this kind of cancer has been said to be of a benignant nature, non-infecting; but the moment comes when it will show its malignancy like any other malignant growth of the kind. I have no intention of making of this kind of cancer, which has been called alveolar cancer, a principal variety. Histologically it will be interesting to distinguish the variety, but clinically it remains with the flat epithelioma, with its apparent benignancy and with its intrinsic malignancy. In the cells of the carcinoma there is a peculiar morbidity. They change places easily, as has been already observed by Waldeyer, and the cells around the nests show all the different shapes. This condition makes very easy the spreading of these cells through the lymphatic spaces and the lymphatic vessels. In Case 4 the secondary carcinomatous nodules followed exactly the path of the lymphatic vessels. The most common degeneration which the epithelial cells undergo in the alveola is the hyaline degeneration, although very rarely the keratodes and the calcifying degeneration may be found.

In my specimens I find a great difference in the formation of the carcinoma. In the superficial they show the epithelial cells coming down directly from the stratum spinosum, affecting primarily the papillary layer, and very little carcinomatous infiltration being found in the deep layers of the corium. In these cases the infiltration of the deep corium, especially in the ulcus rodens, was due to inflammatory cells. In cases of superficial cancer we find that the blood-vessels are normal and the epithelial cells are contained in alveoli formed by the connective-tissue fibers. The hypertrophy of the connective tissue was not so apparent as it was in the second variety. In the deep-seated cancer we have seen the palpillæ nearly normal and the epidermis without any apparent alteration. The infiltration of the epithelial cells is found mostly in the deepest layers of the corium. The blood-vessels are enlarged and a large quantity of epithelial cells are coming out of the intima of those vessels. The infiltration of the epithelial cells is found mostly around the blood-vessels, and for this reason I would not deny the possibility that the origin of the epithelial cells infiltrating the connective tissue can be found in the proliferation of the epithelium of the intima of the blood-vessels. In this deep-seated carcinoma we find that the infiltrating cells are not contained in loculi and restrained from spreading, but they infiltrate the connective tissues nearly free. With high power, however, we find that these large epithelial cells, furnished with enormous proliferating power, are also surrounded by some mast cells, and a few plasma cells, which constitute their nests.

From the histories of the patients and from the peculiar structure of the two classes of cancer, we can infer that although both diseases are of a malignant nature, yet the first is less infectious than the second, which in a short time reproduces on the lymphatic paths numerous carcinomatous nodules of the surrounding skin, soon causes cachexia, and leads the patient to a fatal end.

It is very hard to discuss the nature of cancer. Lebert and Hanover believed they had found the cancerous cell proper of these tumors, but this cancerous cell was nothing else than the epithelial cell in proliferation, which could not be differentiated from a physiologic cell. This apparent benignancy in remaining limited, at least for some time, caused the epithelial cancers to be considered as different forms, and for this reason Lebert called it psuedo cancer, and Hannover, epithelioma. From the works of Virchow, however, the malignant tumors were separated into the two classes, carcinoma and sarcoma. All tumors showing an alveolar structure with epithelial contents, were classed among the carcinoma, and from this time the epithelial cancers remained as true cancers.

The production of these epithelial masses was the great point to be established, and we find that Virchow and Foerster considered the epithelial cells as the production of the proliferation of the corpuscles of the connective tissues, independent of the pre-existing epithelium of the corpus mucosum and of the glands. Thiersh, on the contrary, establishes the origin of the cancer from the preformed epithelium, in consequence the pathologic production of the epithelial cells must be the result of the pre-existing epithelium. Thiersh, however, had neglected the alveolar structure, on which Rokitansky had previously insisted so much, and limited himself to the epithelial infiltration. Billroth found the epithelial infiltration in the connective tissue in consequence of the cancerous stroma necessary for the cancerous nature.

With all the studies of histology and of bacteriology, we are at the same point. We do not know what is the real cause of carcinoma. The theory of the parasitic elements already proposed claimed some protozoa to be the cause of the cancer. I only mentioned the studies of Darrier and Wickham on the Paget disease and the demonstration of the psorosperma and of the coccidia. I must say that for several years I have been a supporter of the psorosperma, but in these last years I was compelled to modify my views and return to the same point. I do not know.

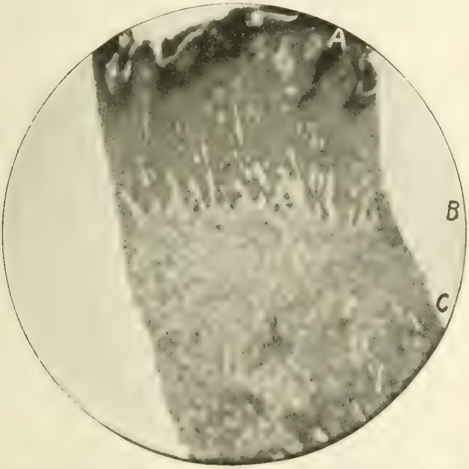

Fig. 7.—Papillary cancer. *a*, mucous layer of the epidermis; *b*, papillæ elongated and increased; *c*, derma infiltrated with epithelial cells and inflammatory elements. ¼ obj.

It is a very easy thing to prepare these large round bodies, which have been considered as coccidia, but when the same forms have been found in many other diseases of entirely different nature, it is our duty to disbelieve entirely this opinion.

What these round bodies are is explained by Unna[2] and Boeck[3]. They are of the opinion that these bodies are produced by epithelium in hyaline degeneration. The apparent peculiarity and specificity soon disappear, comparing these large round bodies with hyaline epithelium found in other dermatoses. We have seen in the previous histologic considerations, that in carcinoma very frequently the epithelium is affected with hyaline degeneration. Unna explains the vitreous ring which is seen around the round corpuscle to be the result of a swollen hyaline ectoplasma, and the internal narrow with double contour as endoplasma, which in some epithelium is only compressed, in others it is in hyaline degeneration. Two epithelial cells, one close to the other, hardened in hyaline degeneration, may form a ring with two Darrier's bodies, which is two nuclei covered by one endoplasma. And again when young epithelial cells are affected with hyaline degeneration, when the distinction in endoplasma and ectoplasma has not yet begun, the hyaline masses are formed with well-preserved nuclei, and this is that which makes the Darrier's round corpuscles. The hyaline degeneration affects young and old cells of the stratum spinosum, and the finding of more nuclei in one cell is the result of several cells affected with hyaline degeneration in close connection. From these considerations the coccydium is nearly out of question, and there remains only the supposition of the parasitic origin of the carcinoma.

ULCUS RODENS.

I will only mention that lately this subject has been approached from the side of the essential vitality of the epithelial cells and their reaction to various irritants[4]. Dr. Hektoen, in his review of this subject, in "Progressive Medicine," refers to the experiments of Dr. Ljunggren, who could preserve pieces of human skin in sterile ascitic fluid for months, the cells of the tissues retaining their vitality. Pieces of skin kept in such sterile fluid for a month were successfully transplanted, and it could be found that a proliferation of epithelial cells had occurred. In the same review Hektoen refers to some observations made here in the United States by Loeb. He writes that from the margin of a tissue defect, huge epithelial protoplasmic or plasmodal masses, move in a sliding manner over the marked surface, inclosing and dissolving the crust and their obstacles. Regenerating epithelium readily removes such substances as cartilages when placed in its way. Below the protoplasmic layer, epithelial cells wander in from the margins of the defect and often grow down into the connective tissue, apparently checking the growth of the latter. This process is closely allied to the changes which occur in carcinoma. Loeb believes that the wandering of the cells is in response to stereotropism, and forms a determining factor in inducing mitosis in the remaining cells. The action of the epithelial elements to arouse at a distance the germinal activity of the epithelial cells constitutes the essence of the carcinoma.

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[2] Die Histopathologie der Hautkrankheiten, Berlin, 1894, p. 286.

[3] Vier Fälle vor Darier'scher Krankheit. A.A. 1891.

[4] The Virginia Medical Semi-Monthly, March 24, 1899.

These physiopathologic studies are in relation to clinical observation. Indeed, we must say that cancer is developed in parts which have been exposed to a continuous irritation. The cancer of the lips and of the tongue in inveterate smokers shows that this epithelial proliferation in the tissues is preceded by a constant irritation. A patient lately came under my observation with an epithelial cancer in the form of a bracelet around the middle of his forearm, and he explained to me that the disease was due to his habit of carrying every day for many years a heavy market basket on that arm. Every patient tells us that he had a small wart or mole, which he was in the habit of picking with his finger-nails, and in consequence caused the ulcer. I believe that a continuous irritation to any part of the skin is the starting point of the epithelial proliferation and of the consequent epithelial cancer.

Epithelioma has been often seen on lupus; from the lupus ulcers start epitheliomatous conditions. Cases of this kind have been referred to by Bidault, Raymond, Hutchinson, Kaposi, etc. The question is whether the cancer is developed in the cicatrix or in the lupus ulceration. Hutchinson[5] gives a fine illustration of lupus cancer in a woman who had suffered from lupus for about thirty years, and on the scar of lupus on her upper lip a malignant growth had taken place. It seems that the scars are often the starting point of the cutaneous cancer, as the *pars minoris resistentiae.* It is singular that the course of the epithelioma in the scars is slower than in the normal skin, and usually the ulcerative forms are more frequent than the papillary.

I cannot neglect one of the most interesting questions: whether syphilis has any influence on the production of the cutaneous cancer. There are some syphilitic ulcerations which easily can be mistaken for epithelioma. In case of a slight doubt of the existence of syphilis, before operating on an epithelioma the patient must first be subjected to an antisyphilitic treatment. I do not believe in any mixture of syphilis and cancer, but for the reasons already expressed, cancer can develop on a syphilitic ulcerative process or on a scar of a syphilitic ulceration. In this regard Besnier refers to a paper of F. H. Ozenne: "Du cancer cher. les Syphilitiques, de l'hybridité cancero-syphilitique de la cavite buccale en particulier." These de Paris, 1884.

The author believes in the association of cancer and syphilis, forming a mixed condition, a well-defined pathologic hybridity. The antisyphilitic treatment may improve this condition for a short time, but later the cancer continues its destructive course. In a few cases which I have had under observation, I have found it rather difficult to establish the exact diagnosis from the clinical symptoms, and only the anatomo-pathologic study can furnish us the differential diagnosis. Syphilis is the cause of irritation, creates *partes minoris resistentiae,* which can be later affected by cancer. It seems that syphilis diminishes the virulency of cancer, but gradually disappears from the scene, and the cancer continues in its destructive activity. In conclusion, both diseases have nothing in common, only syphilis may cause cancerous productions on account of its long-standing ulcerative process.

Treatment.—It would require a long article to review all the different remedies, caustics, and methods of treatment for the cutaneous cancer. I must state that the distinction of these affections into superficial and deep-seated is a great help in the choice of the method of treatment to be adopted for the different cases. The base of treatment is to destroy the growth as soon as possible, and to destroy it deeply and at a certain radius of distance, to be sure to have removed the tissues where a potentiality of development of the infiltrating cells can be found. The methods of destroying the cancer can be reduced to cauterization, curettement and surgical exeresis.

Cauterization can be done with any kind of caustic which destroys the tissues, or with the actual cautery. A large number of substances have been employed to destroy superficial cancers, with different results. Local applications of acetic acid have been recommended by Arnozan[6]. The application of the Vienna paste, the mixture of Manec, arsenious acid 2, sulphate of hydrarg. 6, calcinated sponge 12, and the application of chlorid of zinc, have been praised as a chemical means of destroying carcinoma.

Resorcin, especially in the form of resorcin plaster mull of Unna[7] has been used with benefit in two cases of ulcus rodens by C. Beck of Christiania. Unna, in association with the application of his plaster mull, used every two or three days a cauterization with a 10 per cent. solution of resorcin in alcohol. In a report at the sixty-second meeting of the Deutscher Nauturforschers und Aertze, in Heidelberg, Unna spoke of the favorable results obtained in ulcus rodens by removing with the knife the superficial layers of the ulcer, and then dusting over with pure resorcin.

In the same way a solution of arsenic, according to the method of Czerny-Trunecek, in epithelioma of the inferior lip, has been referred to as very beneficial[8]. This method consists in the scarification of the epitheliomatous surface, followed by the application of a solution of arsenic acid, 1 gm., alcohol and aqua destil. aa. 75 gm. I can say that I have used a great many of these caustics, but none so far have given the results which I have lately obtained from formalin.

A lady, Mrs. B. McD., came to me for a recurrent superficial carcinoma of the left cheek, the size of a 25-cent piece, touching the inferior eyelid and the nose. It had been already scraped and cauterized by a colleague, but the ulcer returning, the lady called on me. I proposed the removal of the growth, to which the lady objected. I began to use several different remedies, among them caustic potash and resorcin, but after the necrotic portion had sloughed off the growth was progressing in its course. I was just using a 4 per cent. formalin solution to harden some microscopic sections made through the freezing microtome, and seeing the wonderful action upon the tissues, I thought I would try it on the carcinomatous. The ulcer was covered with cotton saturated with a solution of formalin, and kept on for nearly thirty minutes. The lady complained of a sharp pain, and soon a mild dermatitis followed which in two or three days subsided. When the patient came back, all the carcinomatous nodules were changed into a white yellowish mass adherent to the tissues, and this gradually sloughed off leaving good tissue underneath. From 4 per cent. I reached 8 per cent. and 10 per cent. solutions, and finally I began to apply the pure solution as it comes in commerce prepared by Merck, under the name of formaldehyde. In a few weeks the ulcer was healed up and I was able to show her to the Academy of Medicine of Cincinnati on account of the remarkable result.

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[5] Smaller Atlas of Illustrations of Clinical Surgery, London, 1895.

[6] Bulletin de la Soc. Franc. de Derm. et de Syph., 1890.

[7] Monatsheft f. Pract. Dermatologie, Band vii, No. 4. p. 173.

[8] Presse Medicale, 1898, No. 75.

Encouraged by this success I began to treat Mr. P. B., 68 years of age, an engineer, for an ulcus rodens of the left portion of the nose, from the tip to its base. For over seventeen years he had been affected with this disease. With repeated applications of formaldehyde—at times an 8 per cent. solution, at times just as it comes in commerce—I have succeeded in obtaining recovery of the whole ulcerated surface. At present there remains a small nodule inside of the nostril, which was cauterized with the remedy mentioned. In the second case referred to I am using formalin to touch up the surface of the cancerous growth, and the improvement is very remarkable. In a patient in the hospital, a lady 52 years of age, with a small superficial carcinoma of two years' standing, I have cauterized the growth with a paste made out of starch, prepared chalk and oxid of zinc, equal parts, incorporated with formaldehyde to make a paste. This paste has been applied twice, and at present the whole growth is changed into a black hard crust, which is gradually detaching from the normal tissue. Before applying the paste we cocainize the surface so as to diminish the pain, and it is also necessary to cover the eyes with cotton so as to prevent the vapor of the formaldehyde from irritating the conjunctivæ. In a case of nodular cancer reported, formaledehyde, from 1 to 5 per cent., was injected with the Pravatz syringe in the carcinomatous nodules. The injection caused the breaking down of the nodules and an abundant sloughing, but it was stopped on account of the resulting pain. In the papillomatous carcinoma of the penis already referred to, the applications of a solution of formaldehyde, from 4 to 8 per cent., for half an hour every day, caused necrosis of all the papillary growths, so that in a few weeks the enormous mass was reduced to nearly the normal size.

Formaldehyde[9] has powerful bactericidal properties, as was pointed out by Locu, 1886, and later by Aronson, Berlioz and Trillat. When formaldehyde gas in solution was added to cultures of bacteria, Pattevin found that their growth was arrested. It is obtained by the action of methyl alcohol vapor and air on platinum heated to redness. The process was difficult and dangerous on account of its explosiveness, but lately it has been modified and rendered very simple. Formaldehyde is not poisonous in the strict sense of the word. In some experiments on animals during disinfection maintained for several hours, no one of the animals died. It is considered the most powerful non-toxic antiseptic and bactericide. Introduced into the circulation it is poisonous, on account of the coagulation of the blood, which it easily induces; and if introduced into the stomach, it causes a violent irritation with vomiting. In many patients while using formaldehyde freely on the affected surface, it has never caused any general trouble of the nervous system.

It seems that the penetrating power of formaldehyde is greater than is usually supposed. Professor De Rechter of Brussels was testing its power on human and animal cadavers exposed to the fumes of 40 per cent. formaldehyde. The cadavers could be kept for months without any trace of decomposition, or if it had already begun it was immediately checked by the vapor of the formaldehyde. In cadavers of guinea-pigs that had died from anthrax or tuberculosis, and also in the lungs from tuberculous cows, the organs were found completely sterile in two to six days. The tests prove that the formaldehyde penetrates the whole substance of the cadavers and kills the bacteria and anthrax spores in them[10].

From these considerations on the physiologic action of formaldehyde, there is reason to believe that from its penetrating power it is able to reach the nest of cells of the superficial cancer and reduce them to a hard detritus, which is subsequently sloughed off from the normal tissues. In order to increase its action, when applying the paste it is better to cover the paste with a piece of rubber or of oiled silk, so as to prevent its rapid evaporation.

I consider formaldehyde in superficial cutaneous cancer as one of the best local applications we have. It is non-poisonous, therefore there is no danger as in the application of arsenic paste; it has the power of penetration into the tissues, therefore an action which spreads deep into the tissues, destroying the cancerous infiltrations. The deep-seated nodular carcinoma of the skin has also been treated by bathing with a 4 to 6 per cent. formaldehyde solution, and I must say that in spite of the bad condition of the locality, the patient has been benefited by these applications.

The curettement, used a great deal by Kaposi and also by Bessnier, is a good method for a superficial epithelioma, if followed by cauterization, even with the thermocautery, or with formaldehyde. The curettement removes the cancerous tissue on the surface, but does not remove the whole affected mass. Many nests of cells remain in the surrounding derma which the curette can not reach; in consequence, relapse is promptly at hand. But when the curettement is followed by a thorough cauterization, then it is one of the best therapeutic means we have.

When we have to do with a deep-seated, nodular carcinoma, or with the papillary vegetating cancer, the surgical exeresis is the best treatment. The removal of the whole growth at some distance from the healthy skin is the only means of destroying the growth and preventing infection. In the cases where the lymphatic glands near by are involved, it is necessary to resort to surgical extirpation of the lymphatic glands in order to prevent relapse.

In the unfortunate cases where the growth has taken such proportions as in our two cases above referred to, any surgical operation is absolutely impossible, and we must remain powerless spectators of the destruction.

The method of Coley, of injections with the solution of cultures of bacillus prodigiosus and streptococcus erysipelatis has been tried, but the results have been entirely negative. I have used this method in a few cases, but the results have been such as not to invite me to further experiments. The same ideas I find expressed by B. Korff in his paper, "Uber Carcinombehandlung mit Streptococcus prodigiosus Kulturen, und negativem Resultat."[11]

At this point the patient is already greatly emaciated, the cachexia is rapidly increasing, the extensive ulcers are discharging offensive matter, yet a solution of 2 per cent. of formaldehyde left for some time on the ulcers in the form of compresses, cleanses them, removes the offensive odor and diminishes the seropurulent discharge. In this case formaldehyde is only a simple auxiliary means, which comes handy in those hopeless cases.

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[9] Formaldehyde. Its Nature, Properties and Uses. By F. E. Stewart, M.D. Merck's Archiv., January, 1899.

[10] Munich Med. Woch., October 4.

[11] Wien. Med. Woch., 1897, No. 12.

RECENT PHASES IN PSYCHIATRY.*

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When I first began the study of insanity I thoroughly and comparatively read several standard works on mental diseases, and after finishing them I had no clear comprehension of one single psychosis. It was only after much clinical study, in which no reference was made to text-books, that I gained any satisfactorily definite knowledge of mental diseases.

The confusion arising to the student from the many different bases for classification, and the consequently large number of terms for the different abnormal mental states is most bewildering. It has been said of the alienist that, when he thinks he has finished his studies, he constructs a classification. While I have not finished my studies, I, nevertheless, have been unable to find in a text-book a classification that for my own clinical use formed a practical working basis. I am not alone in this attitude, and yet when working side by side with men who chafed as badly as I under the yoke of this or that classification, we could not agree among ourselves as to a proper one. The classifications of no two authors agree in all important points. Different authors name over fifty different manias and as many melancholias. There must be something radically wrong about a science that finds its followers so far apart.

With the methods in use, clinical study of the insane offered but very slight inducement to the ambitious student. Observations as to the frequency and effect of intercurrent or concomitant diseases, consideration of the causal factors and experimentation with therapeusis seemed to give the only chance for the gaining of tangible results. Even these fields had been trodden almost bare by the alienists of the present century. There seemed to be no way, no means by which we could scientifically investigate abnormal mental phenomena, and thereby gain a clear comprehension of mental diseases. The methods in vogue enabled us to speculate, to philosophize, to theorize—to what end? Only to make a new classification representing one's individual ideas of mental pathology with which he could not hope that any other fellow observer would fully concur. The fault lay not with the observer, but with his methods of research.

For nearly two years, with a well-equipped microscopic laboratory and two assistants, I devoted almost my entire time to the study of the pathology of the insane, making in all over four hundred post-mortem examinations. Many interesting cases were thoroughly examined, and from the standpoint of the neurologist much that was important was brought to light, but comparatively little data was acquired that would help one to a better understanding of the true nature of mental disease. Nevertheless, we have a right to expect much from histopathology, but a marked improvement in laboratory technique will be necessary before any material advance can be made, and histopathology can never give an adequate foundation for the study of abnormal mental phenomena. It may, and undoubtedly will, help to explain clinical data, and confirm theories suggested by clinical observation by demonstrating the physical basis, for it will explain the end, but can not become a means to that end. The brain does not, gland-like, secrete thought. Thought being neither a secretion nor material, can not be examined by the methods of histopathology.

No professor would think for one moment of teaching diseases of the digestive organs to a class who did not have a fair understanding of the physiology of digestion. How many courses in mental diseases are given to-day, in medical colleges of the best repute, in which there is absolutely no reference made to the physiology of the mind? But a few days ago, on carefully looking over my synopsis of the course in mental disease which I give in the Northwestern University Medical School, a prominent neurologist and an experienced teacher made the single suggestion that he thought that I spent too much time in the rudiments. In the course, the first five lessons were devoted to the physiology of the mind, under the caption of "Mental Organization."

In considering the most prevalent methods of the study of insanity, we can not fail to notice that psychiatry shows, more clearly than any other branch of medical science, the effect of philosophic theorizing and the dearth of scientific research. Alone, the purely mental phenomena of insanity give a foundation for but little that is not speculative. Attempts to build up the science on such groundwork have brought to psychiatry a wealth of conflicting views that have bred a bewildering profusion of terms and classifications that still, to a certain extent, act as a barrier to helpful co-operation among alienists.

Of all sciences, the psychology of but two decades past was perhaps the most imperfect. Notwithstanding its having long been popularly classed with the natural sciences, if we understand a science to be related knowledge obtained by special research and accepted by the consensus of reliable specialists, psychology has not until recently merited the name of science. This want of consensus is most apparent. Even in fundamental points the manuals of psychology do not agree, while in the manuals of physics, geology or botany there is practical unanimity.

Psychology has until recently been little more than introspective speculation, often senseless and ridiculous. The elaborate webs of philosophy woven by the old school psychologists could, therefore, give no practical working basis to the alienist. However, as natural philosophy paved the way for and was gradually supplanted by natural science, so the philosophic abstraction of the psychology of a few years ago is fast giving place to the experimental scientific psychology of to-day. Since the founding of the first psychologic laboratory in Leipzig, in 1878, problems have been solved which the philosophic school regarded as unanswerable. The conflicting philosophies, as well as the traditions of the alienists, are now giving place to facts established by scientific investigation. Psychology as an experimental science refuses to depend on foregone metaphysical conclusions, and bases its investigations on demonstrable facts.

The reflex act is recognized as the fundamental element in all action, voluntary or involuntary, from the simplest motion to the most complicated performance. Every motion, every activity of animal life, from the simplest movements of the amebæ to the most complicated performance of the modern gymnast, from the suckling of an infant to the cogitations of a philosopher, has its type in the reflex act and employs essentially the same mechanism.

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*Read before the Chicago Academy of Medicine, May, 1899.

The essentials of nervous function are: 1, a stimulation, and 2, a response, a reaction; in fact, a motor effect. This we can not explain by purely physical laws. The simplest ameba has a certain capacity for nervous processes, as shown by its sending out pseudopodia and enveloping a grain which has been brought in contact with it, although there is not the semblance of a differentiation of nervous mechanism. Constantly repeated transmission of an excitation along the line of least resistance establishes conduction paths which become anatomically differentiated.

The frog from which the cerebrum has been removed will jump when pricked with an instrument, executing a simple reflex act only. If, however, an obstacle be placed in front of it, and it then be pricked, it will jump, but in such a way as to avoid the obstacle. The simple reaction to the prick has been modified by the intercurrent stimulus of sight of the obstacle, and the modified or resultant action is said to be an automatic act. An automatic act, then, is but the modification of a simple reflex act by a second stimulus. It is the resultant of two or more stimuli, and is a step farther in the progressive development of action. This advanced step is characterized by the correlation of two or more stimuli, but there is no conscious psychic correlative. In going down a stairway our every step is modified by ntercurrent stimuli, yet we are not conscious of the fact.

We daily meet people for whom we automatically turn aside, without giving them a thought, but when one of those whom we meet happens to be a friend, we stop and greet him. It is plain that in this case our action has been modified by an intercurrent mental image stored up in the brain. Had it been our enemy, we might have turned away, but our memory tells us it is our friend. This is a so-called voluntary or conscious act, and is distinguished from the simple reflex and automatic acts by its having a conscious psychic correlative. The automatic reaction has been modified by the intercurrent mental image which the stimulus of sight passing into a higher level has called forth.

However, the conscious or voluntary act differs n no essential way from the automatic one. The brainess frog being stimulated, sees an obstacle in front of t, and therefore so modifies its jump as to evade the obstruction. Since early life the frog has habitually avoided obstacles found in its way. We habitually greet our friends. We meet a man and automatically change our course so as to give him his share of the walk, but when the sight of the man calls up the memory image of our friend, this mental image is correlated with the automatic reaction and modifies it and we greet him. Past experiences have taught us that the man we met was our friend. The only difference in these two acts s the different developmental levels used, as shown by the element of consciousness in the one case, and the absence of consciousness in the other. However, one is as fundamentally reflex as the other.

Conscious action, therefore, is only one step higher n the progressive development of action. Conscious action is often spoken of as voluntary, or action of the will, yet actions are not produced by the will. What we call will is but the resultant of the association of sensations received with the ideas gained from past experience. There is no special faculty of the will. A definite action must follow certain external stimuli and certain ideas according to an inevitable law of causation, just as a stone detached from its support must fall in a certain direction with a certain velocity.

The recognition and greeting of a friend is the type of all psychic function. The receiving of one or more sensations, the associating of them together with memory images or ideas and the resulting responsive action or inaction comprehends all psychophysical processes. There is no psychic process whatever that is produced by the operation of other elements than these.

Mental organization has been perfected by gradual development through untold generations, and is the resultant of heredity and culture acquired throughout ancestry. The plan of its structure and function is the simple structure and function of the reflex act. That which determines and orders the foot to be withdrawn when suddenly burned is fundamentally thought just as much as that by means of which the general determines to order a retreat when he sees the great destruction of his forces.

The disordered reflex act should, therefore, be the basis for the study of disordered mental activity. An exhaustive competent and careful study of conditions affecting the simple and automatic acts, and the consideration of the causes of increased and lessened irritability and sensibility, irregular movements, tics, spasms and convulsions, pareses, paralyses, in the lowest level, would establish a foundation absolutely essential to an intelligent and scientific study of mental disease and disorder.

The nervous system is developmentally divided into three stages: 1, that of the simple reflex arc; 2, the automatic act; 3, the conscious act; and is structurally and functionally divided into three corresponding levels. Will not a thorough understanding of hyperexcitability and convulsion in the two lower levels bid fair to go far in explaining the true nature of mania? Do not the lessened excitability, increased sensibility and neuralgic pains in the lower levels suggest the sluggish, supersensitive, painfully anxious melancholiac? Should the higher levels become paralyzed, would not the condition be dementia? Would not the counterpart for a habit spasm or deformity of movement be in the higher level a distortion or deformity of mind?

In the psychology of to-day, psychologic or laboratory psychology, the foundation for the study of the reflex act has already been laid, and much good work has been done. There have been collected records of tests and measurements on thousands of normal individuals, with respect to their powers of sense; the rate with which sensations travel to the brain; the rate with which motor impulses travel from the brain to the muscles; the accuracy of the senses; the time rate of the higher mental processes; the effect of many drugs; the effect of mental activity on the bodily processes, as well as the effect of bodily changes on the mental processes; the effect of fatigue and the poison engendered by fatigue; the problem of daily rhythm; the measurement of the strength of attention and the integrity, tenacity and readiness of memory. Many other studies along these lines have been and are being made in the psychologic laboratories of our greatest universities, and the results carefully recorded so that as far as normal persons are concerned, objective standards have been well established which will serve as a basis for comparison of tests and measurements on abnormal individuals.

The insane have been but little studied by such laboratory methods, yet the results obtained are definite and most instructive; for example, the simplest conscious reaction time measures, in the average normal individual, .162 seconds; the time for melancholiacs varies from .238 to .272 seconds, and in acute mania the reaction has been as prompt as .125 seconds. The complex association reaction time requiring the discrimination between the right and left hands is in the average normal individual .265 seconds, but in melancholia it is also markedly lengthened, one case reacting in .624 seconds, while in mania it is much more rapid than normal, one case reacting in .201 seconds. The comparison tests as to the voluntary motor ability are quite as striking. The data already acquired indicate that laboratory psychology bids fair to give to psychiatry more satisfactory results than any other field of research now opened up. In this country three hospitals for the insane are now using laboratory methods in the study of patients.

Psychology and psychopathology have developed scientific methods for conducting the experiments, observing the phenomena, and finding the facts that are essential to progress in psychiatry. It is to be regretted that psychology and psychopathology are too often confounded in the minds of many physicians, even many alienists and neurologists, with the different systems of metaphysics, mind cure, faith healing, "Christian Science," hypnosis, etc., and are, therefore, given little or none of their attention. There is no science that is more strictly scientific than the laboratory psychology of to-day, and there is no other tangible and firm basis for the study, treatment and classification of mental diseases that is broad enough to include the whole domain of not only psychiatry, but neurology as well.

DISCUSSION.

Dr. James G. Kiernan—There are some points, in the paper of Dr. Stearns, which I can not commend too highly, while to others I must take decided exception. The influence of differences in classification have been decidedly overestimated. Between the classifications adopted by the Austrians, Germans, Italians, Russians, Scandinavians and those adopted by scientific American alienists there is practically no difference. America, England, Canada, Scotland and the British colonies are full, however, of alienists manufactured by the grace of a machine. To the classifications adopted by these, no scientific importance can be attached. Psychiatry does not differ as to the difficulties arising from classification from any other speccialty. Difficulties noticeably occur in dermatology. The great difficulty is not in the existence of classification, but in the failure of those using them to grasp general principles which have formed a basis of classifications since the day of psychiatry. It must be admitted, however, that with the exception of most modern American and one Canadian textbook—that of Dr. D. Clark—English-speaking text-books are a wild chaos of individual egotism. Clouston has one classification, Savage has another. Blandford, the arch-type of the British philistine in psychiatry, has a prehistoric one. Bevan Lewis increases the chaos. As studies of individual psychoses, these text-books are of value. As enunciations of the general principles of psychiatry, they are worthless. Psychology is still too much in the dogmatic stage of alleged positivism to be of value; it has not yet demarcated between the normal and the abnormal. Even in regard to simple emotional psychoses, like mania and melancholia, psychology furnishes no data, comparative in value with those furnished by clinical observation.

Mania has been shown to be simply an emotional exaltation and its consequences, melancholia, an emotional depression and its consequences. But neither the psychologists nor the so-called alienists by the grace of the machine, as yet, fully appreciate this difference. Pathology has made no advance sufficient to revolutionize the classifications enunciated by Meynert and his allies in Germany. Indeed, artefacts due to the action of absolute alcohol on the brain tissue are still alleged to be pathologic lesions, by the new school of pathologists, who have exhibited wonderful industry of late in revamping errors, exploded twenty years ago, as new discoveries. The fact that in many psychoses, findings must be negative, since these depend on biochemic change, is ignored. Secondary changes due to these biochemic alterations and found in but few cases are cited as lesions, albeit these lesions are not peculiar to psychoses. It can not be said that the overriden neuron hobby has been of much assistance. This glittering bubble seems to be on the point of bursting, to judge from the recent researches of Apathy and others.

I do not deprecate original research in psychiatry. Such research, however, is a mere Sisyphusian waste of time, unless based on a knowledge of what has been done previously. There is hardly a reform urged in psychiatric research to-day that is not urged from the old canting standpoint of exploded systems. If psychiatry is to be a science, it must be based on a proper union of biology, pathology, clinical observation, as well as physiologic psychology, cerebral anatomy and physiology and pharmacology. All attempts to base psychiatry on any other principles have failed in the past and will fail in the future.

Dr. Harold N. Moyer—The question of classification has been one that has puzzled psychiatrists and alienists for generations, and yet it has always seemed to me that there was no essential difficulty in it. Nature does not make any classifications for us. These are artificial divisions and distinctions that we make. We classify matter into organic and inorganic; yet it is almost impossible to make such an actual division. We classify living objects into vegetable and animal, yet Nature makes no such division. These two classes shade into each other in exactly the same way as do mental diseases. The classification is arbitrary in many respects. We must have some classification or we would be hopelessly confused, and the simpler the classification can be made, the better is it as a working basis. If we approach the subject of classification in this way, and not as a fetish to be worshipped, then I think we can get a much more correct notion of it. We must recognize that any classification has some faults. Not infrequently one form of mental disease shades into another in an almost imperceptible degree; there are certain transition forms no one can place in a particular class. Different forms of mental trouble at different times during the progress of the malady constitute a tremendous difficulty.

I do not agree with my friend regarding the importance of experimental psychology as a foundation for mental disease, a position which he implies Dr. Stearns has taken in his paper. I do not understand Dr. Stearns in that sense at all, but rather, we are to use experimental psychology as a clinical aid in differentiating the different forms of mental trouble, in studying their progress, and in formulating a prognosis. I certainly believe that the exact methods of experimental psychology are destined to have a wide and fruitful application in clinical psychology. We are now on the threshold of important discoveries in the anatomy and histology of the nervous system, which are going to lead to fruitful results. I can not conceive of psychology or any other branch of medicine whose aim is not ultimately to put it on a pathologic-anatomic basis, but the data are not at hand to do so at the present time.

Dr. W. X. Sudduth—I do not see, considering the scientific manner in which this subject has been handled, that there is much left to be said, still I can not wholly agree with the essayist in regard to his presentation of the subject. I do not see any reason why modern scientific methods should not to a certain extent lead to a new classification, because our old classifications to a large extent were based on clinical observation only, and in many instances defective clinical observation at that; empirical classifications entirely based on clinical observation can not stand the test of modern psychologic investigations and observations.

I like to have subjects brought before the Academy in this manner; I like to listen to a paper that shows thought, and shows that the writer has been engaged in an investigation which has evolved original work. To my mind the psychophysical aspect of investigation of mental diseases holds out more promise of beneficial results than the old histopathologic line of investigation. For years I have followed both methods of investigation, and while the older method gave rise to much labor, it furnishes very small results. The psychophysical investigation of the last decade has done very much more for those who are working in this field than any other previous method of investigation. I look forward to seeing yet more perfect results than have yet been obtained, results which will stand the test of clinical observation, as well as the test of the laboratory. With a thorough knowledge of the physiology of the mind, as well as of the brain, better results not only as to prognosis, but as to ultimate cure in regard to these derangements, may be expected. Knowing the cause of the condition we can outline treatment accordingly and secure more accurate results. This rule applies not only to psychiatry but to other diseases as well.

While the essayist was reading his paper, a little confusion arose in my mind as to how he looked on the mind, whether he considered it as the intellectual result of brain activity alone, or whether he thought the mind could be looked on, not as the result, but as the cause of the perceptivity of reflex actions. It raises the old question as to which is first, the egg or the hen, a thing which we have to fight over in psychologic investigations as well as in biologic laboratory work.

The essayist did not use the word "unconscious," but he spoke of conscious activities. By using the words "conscious activities," he inferentially leads us to suppose that he believes in unconscious activities. I have dropped the word "unconscious" from my vocabulary. I have no use for it any more. I use the term "subjective consciousness" or "sub-conscious," because I am fully convinced that there is no such thing as an unconscious action. The stream of consciousness is continuous, and nerve-fibers and filaments are incidents in the process of intellectual function; wherever this stream of consciousness, whatever it may be, is directed, in time nerve-fibers and nerve conductors will be differentiated.

I take little or no stock in the neuron theory which has been advocated. Conscious activities pervade the whole organism; each and every cell of the body is a separate entity, and there need not necessarily be any physical relationship between them, although there is a psychic continuity which connects the whole body as an organ, making it one co-ordinate machine.

I have had some experience along this line of investigation, in teaching patients with progressive locomotor ataxia the use of certain groups of muscles that have become paralyzed as a result of the destruction of the motor paths in the spinal cord. It is not new with me, however. I forget who it was, but I believe some one in Vienna, who was the first to bring out that line of work. In several cases, in one of which the disease was of twelve years' standing and progressive, where I felt sure an autopsy would demonstrate that the destruction of the motor paths in the spinal cord was more or less complete, the individual was given a picture of the movements desired by suggestion, and movement was brought about and the limbs regained their activity, lost in the previous course of the disease. This and other similar cases seem to substantiate the premise I hold, i. e., of consciousness being independent of nerve processes.

The point raised by Dr. Moyer, as to the difficulty of making close distinctions as applied to nervous conditions, is one which I have held, and which seems to me to prove the necessity of some general classification that can be adopted, leaving differentiations for individual cases.

Dr. Kiernan—With reference to the point urged by Dr. Sudduth, in regard to locomotor ataxia, it must be remembered that there is often a functional loss of power resultant on temporary disuse. I can not agree with Dr. Sudduth as to consciousness being always existent.

Psychiatry and physiologic psychology alike justify the view of Ribot, that the ego is a co-ordination. It oscillates between two extreme points—perfect unity and absolute inco-ordination else it ceases to be—and all the intermediate degrees exemplified without any line of demarcation between normal and abnormal, health and disease; the one trenching on the other. Wherefore the ego in the psychologic sense is the cohesion, for a given time, of a certain number of clear states of consciousness, accompanied by others less clear, and by a multitude of physiologic states which, though unaccompanied by consciousness, are not less, but even more effective than the conscious states.

The physical substratum of the ego is that essentially outlined by Spitzka, more than twenty years ago. Meynert, a decade previously, had called attention to the presumptive physiologic rôle of certain arched fibers, which are known to unite adjoining as well as distant cortical areas with each other. The chief factor on which the higher powers of the human brain depend, is less cortical development, as such, than the immense preponderance of the white substance, due to the massive associating tracts. Although the projecting tracts are also larger in man than in any other animal, yet so great is the preponderance of the associating mechanism that the elimination of the former would not reduce the white substance of the hemisphere by one-half its bulk. Both projecting and associating fiber masses increase in a nearly geometric progression from the lower animals to man; but the ratio of progression of the associating fiber masses exceeds that of the projecting tracts. There are certain convolutions which are almost exclusively connected with fibræ arcuati; that is, with associating tracts, and which enjoy but little direct connection with the bodily periphera. Such cortical areas, so connected, play an important rôle as a substratum of the abstractions. Such cortical areas and their subsidiary associating tracts, bound into the still higher unity of the entire hemisphere, constitute the substratum of the metaphysician's ego. A disturbance of the intricate relations which are involved in the material basis of the ego must be accompanied by a disturbance of the ego, or may even render it an impossibility. It is on accurate connection of projection or as with projection areas, and of these with "abstraction" areas, that the faculty of logical correlation depends. Correction of the countless errors made during a lifetime is possible only by an influence analogous to inhibition, exercised by the association fasciculi. The proper aim of every true educational system is to develop this control of the various cortical screens on each other, a correction which, with approaching maturity, is delegated to the "abstraction" field.

If it follows, therefore, that, as pointed out by Herzen, the conscious mental process betrays an imperfection of the cerebral organization, for it indicates the presence of a new unusual activity which deranges the equilibrium, the innate or previously acquired automatism, and which does not find a well-formed mechanism ready to discharge it, the conscious mental process is the transitory phase of an inferior to a superior cerebral organization. It expresses novelty, incertitude, hesitation, groping, astonishment, imperfect association and incomplete organization, a want of promptitude and exactness in transmission, a loss of tenure in the phenomena of reaction. It indicates that the nervous paths are not sufficiently cleared or distinctly enough traced, to permit without destruction in the final effect, reflex movements or reflex ideational sensations.

Dr. Sudduth—I must disagree with Dr. Kiernan, in saying that my remarks concerning suggestion in the treatment of locomotor ataxia are foreign to the paper. A writer in the *Medical Record* has published his clinical observations on consciousness during anesthesia, and he relates the case of a patient who was conscious during the administration of the anesthetic. It has for years been my observation that I could keep in touch with the patient during the administration of anesthesia; the patient may retain consciousness of what is going on, yet at the same time have no sense of pain. In a paper for the Illinois State Medical Society, I take up the subject of consciousness as related to psychophysical culture, showing how it is that the stream of consciousness has a connection with the development of muscle, and also with the acquirement and the control of habits when once formed. But I am positive that there is no such thing as a state of unconsciousness in this life, and, I believe, while it may not be pertinent to the subject, that after this life there is a higher state of consciousness than the one experienced here. Psychophysical investigation has already positively demonstrated that there is no such thing as a state of unconsciousness, and that within a few years the word "unconsciousness," will be generally eliminated from the vocabulary of scientific investigation on the subject, and become obsolete as related to bodily processes.

Dr. Stearns, closing the discussion—I do not wish to put forward physiologic psychology as the only method by which we can study insanity, but to emphasize the fact that the methods of investigation that have been elaborated in the study of psychology, in the school established by Wundt, are capable of being used to a large extent in the study of the insane, and of becoming a most important and essential aid to a correct understanding of abnormal mental states. Future research by the use of psychopathologic methods will give us data that will finally serve as an enduring basis for a truly scientific classification.

PRELIMINARY REPORT OF ANTERIOR TRANSPLANTATION OF THE ROUND LIGAMENTS FOR DISPLACEMENTS OF THE UTERUS.

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CHICAGO.

The patient is prepared for a laparotomy in the following routine way: The day previous to the operation the bowels are well emptied by means of small repeated doses of calomel, or better still, by castor-oil. Sulphate of strychnia, 1-30 gr., is given every three hours. The patient is given a bath, and the skin of the abdomen thoroughly cleansed with soap and water and alcohol.

The pubes and external genitals are shaved and cleansed in the same way as the abdomen.

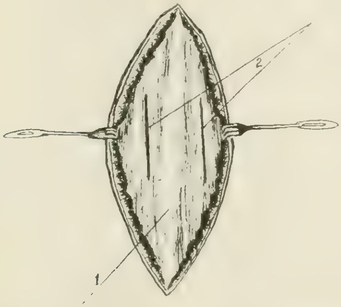

Fig. 1. Skin retracted, showing linea alba and anterior sheath of recti muscle. 1, linea alba; 2, lateral incisions on either side of linea alba. Woman in Trendelenburg's position.

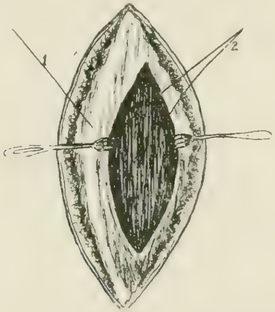

Fig. 2.—Skin and right sheath of right rectus muscle retracted and the fibers of the muscle exposed. 1, linea alba; 2, sheath of rectus retracted.

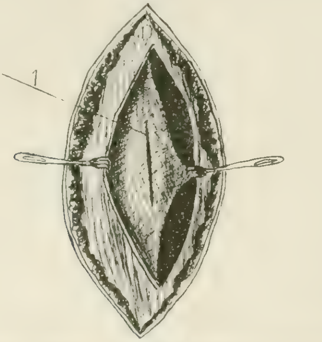

Fig. 3.—Skin and sheath of right rectus muscle and the fibers of the right rectus retracted, exposing the posterior sheath of the right rectus and the transversalis fascia and the peritoneum. 1, line for incision through the posterior sheath of rectus muscle and transversalis fascia and peritoneum.

Operation.—The patient is put under the influence of ether and placed on the table. The skin of the abdomen is well cleansed with soap and water and a brush; then washed with alcohol, and then with a solution of bichlorid of mercury. The genitals and vagina are treated in the same way. The patient is now placed in the extra-lithotomy position with the thighs well flexed on the abdomen. The vagina is, when deemed necessary, next dilated with a speculum and the anterior lip of the os is seized with a tenaculum forceps and the whole uterus brought well down. The os is now gradually dilated and the uterine cavity thoroughly curetted with an irrigating curette. After this the uterine cavity is packed with iodoform gauze, the gauze removed, and a 95 per cent. carbolic acid solution applied to the interior of the uterus by means of a swab at the end of a probe; then the uterine cavity is again packed with iodoform gauze, the gauze is again removed, and a sound is passed into the uterus. This sound is kept in during all the operation, by an assistant who presses the end outside of the vagina downward toward the perineum so as to keep the fundus of the uterus well up against the anterior abdominal wall.

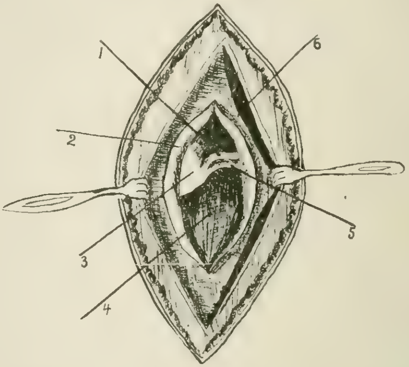

Fig. 4.—Skin, etc., retracted and the transversalis fascia and peritoneum opened and the uterus, with the round ligament and Fallopian tube, exposed to view. 1, round ligament in front of tubes; 2, posterior sheath of transversalis fascia and peritoneum; 3, uterus; 4, general peritoneal cavity; 5, fibers of muscle; 6, Fallopian tube.

The patient is now placed in the Trendelenburg position and the skin of the abdomen again well cleansed. Aseptic sterilized towels are placed all around the abdomen leaving only the lower half of the abdomen exposed to view.

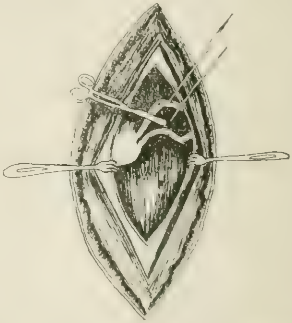

Fig. 5.—Skin, etc., retracted as in Fig. 4, and the same view. A suture is put through the broad ligament.

A skin incision about three inches long is made in the median line, beginning about an inch and a half from the symphysis pubis. The knife is carried through the skin and fat superficial fascia down to the linea alba. The skin, fat and superficial fascia are now retracted with retractors as seen in Fig. 1, exposing to view the linea alba and the anterior sheaths of the recti muscles on either side. The anterior sheaths of the recti muscles are now opened by incisions about two and a half inches long on either side of the linea alba, and about an inch from the median line.

We now deal with each side separately. The anterior sheath of the rectus muscle is now retracted and the muscular fibers of the rectus muscle exposed, as seen in Fig. 2. The muscular fibers of the rectus are now pushed to the outer side of the wound and well retracted, together with the anterior sheath. On pushing aside these muscular fibers of the rectus outward, the posterior aspect of the rectus with the transversalis fascia and peritoneum are brought into view, as seen in Fig. 3. The structures posterior to the rectus muscle—the transversalis fascia and peritoneum—are now opened about an inch and a half. The edges of this opening are drawn well apart by blunt retractors and the uterus, which is being pushed well forward by the sound, is now brought into view. The Fallopian tube and the round ligament lying in front of it are also seen, as in Fig. 4.

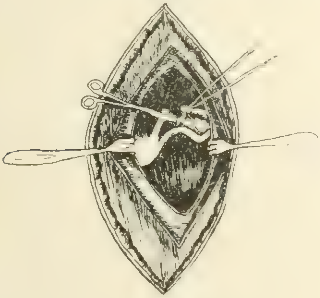
Fig. 6.—Skin, etc., retracted as in Fig. 4, and the same view exposed. Here we have the round ligament sutured at one end and held by the forceps and cut.

The next step is to seize the round ligament, about an inch from its attachment to the uterus, by a forceps, and separate it from the Fallopian tube by drawing it well forward. In doing this the broad ligament is also brought up, as seen in Fig. 5. A suture is now passed external to the forceps through the broad ligament, but below the round ligament, as seen in Fig 5. The round ligament is then divided between the forceps and the ligature, which is tied, and that end of the round ligament is dropped into the peritoneal cavity, as seen in Fig. 6, and the suturing begins. The proximal end held with the forceps is now drawn well out of the peritoneal cavity with its accompanying portion of the broad ligament. The retractors are withdrawn from the peritoneum and placed beneath the rectus muscle and its anterior sheath, and the skin, on the outer side; and the anterior sheath of the rectus and skin on the inner side. When the retractors are withdrawn from the peritoneum and transversalis fascia, then the structures posterior to the rectus muscle, the transversalis fascia, etc., are allowed to fall into their natural position, and then it is found that they are on either side of the broad and round ligament, as these ligaments are drawn out of the peritoneal cavity. These ligaments occupy the upper part of the wound in the peritoneum, etc., as seen in Fig. 8. The round ligament, with its portion of the broad ligament, is now sutured to the peritoneum and transversalis fascia, as seen in Fig. 8.

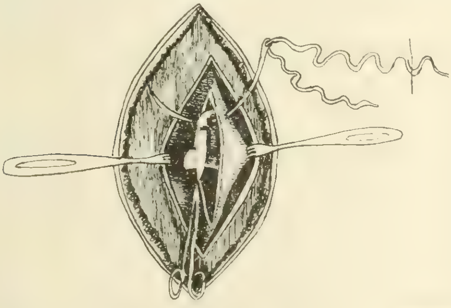
Fig. 7.—Suturing broad ligament and round ligament to transversalis fascia and peritoneum behind the rectus muscle.

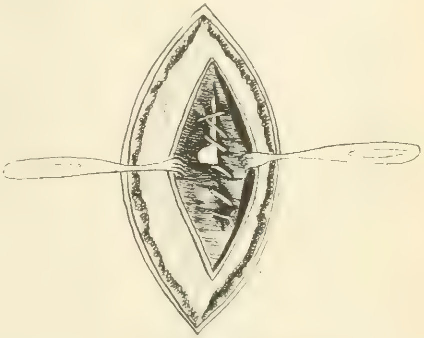
Fig. 8.—Suturing of portion of broad ligament and round ligament to transversalis fascia and peritoneum completed.

The rectus muscle is allowed to recede into its former position. The end of the round ligament, being brought around the border of the muscle or through its fibers, is secured to the anterior sheath of the rectus by means of the continuous suture which closes the wound in it. (Fig. 9.)

The same procedures are now carried out on the other side, and after that the skin incision is closed in the usual manner. (Fig. 10.) The material used for the buried sutures is chromoform catgut, No. 1.

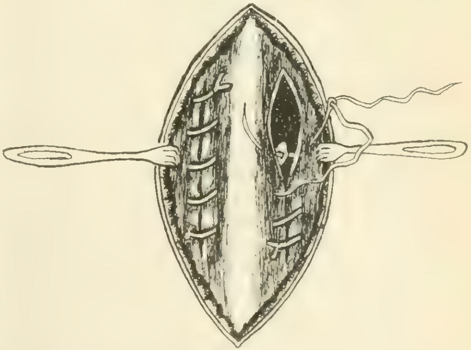
Fig. 9.—Here we have the sheath of rectus muscle on the left side closed and the right side being closed. Notice the end of the round ligament being caught in one of the sutures.

EPITOME.

1. A skin incision in the median line, three inches long, is made, beginning one and a half inches from the symphysis pubis.

2. The linea alba and anterior sheath of recti muscles is exposed, and an incision made on either side through the anterior sheath of the recti.

3. The rectus muscle is retracted outward, and an

incision is made into the peritoneal cavity directly behind it through the transversalis fascia and peritoneum.

4. The round ligament and portion of broad ligament is seized with forceps one inch from its origin, tying the round ligament and broad ligament external to the forceps and dividing between.

5. Dropping the tied distal end of the round ligament into the peritoneal cavity and lifting the proximal end well out of the wound into the peritoneum.

6. Fixing the round ligament and its accompanying portion of the broad ligament to the wound in the transversalis fascia and peritoneum.

7. Replacing the fibers of the rectus muscle and closing up the wound in its anterior sheath with continuous catgut suture, which grasps the cut end of the round ligament.

8. The other side is operated on in the same manner.

9. Closing the skin incision. The anterior transplantation of the round ligaments for uterine displacements has many advantages over former procedures. The round ligaments and their portion of broad ligament afford excellent material together while the round ligaments alone are too frail and elastic for reliable and permanent anchorage of a uterus. There are no sutures inserted into the uterus and no adhesions can take place between it and abdominal wall as in the ordinary suspension operation. The organ is suspended free in the pelvis, capable of motion, sufficient to accommodate itself to a distended rectum or bladder, without inconvenience. On physiologic grounds it is inconceivable that pregnancy would be interfered with by this operation, and for a hernia to follow is utterly impossible. It affords ample opportunity to suspend healthy ovaries, and to remove diseased ones. In short, many pathologic condition in the pelvis may be treated through the abdominal incisions. It is sure to hold the uterus in place without the annoyance of the dragging pains which so frequently accompany Alexander's operation and modifications of it.

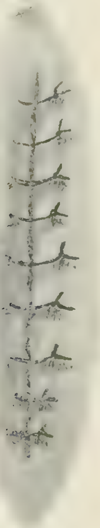

Fig. 10.--Wound of the skin closed with interrupted sutures.

In the twenty-two cases operated on, in two and a half years, by the method above described, ideal results have been obtained. One became pregnant and went on to a normal termination.

10 Drexel Square.

Clinical Report.

CASE OF INJURY TO URETER DISTAL TORN END GRAFTED INTO THE BLADDER.

BY L. H. DUNNING, M.D.

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March 2, 1899, I operated on a patient giving the following history: She had been confined seven weeks previously, at full term, her confinement being followed by fever and evidences of sepsis. She had to keep to her bed continuously from the time of her confinement until admitted to St. Vincent's Hospital, February 28. There were all the physical signs of a pelvic abscess on the right side.

On opening the abdomen the uterus was found pushed far to the left side of the pelvis. The omentum lay over an abscess of the right broad ligament. It was greatly thickened and the inferior portion attached to the anterior abdominal wall in front, and to the bladder, right horn of the uterus and upper portion of the right broad ligament, so that to expose the abscess the overlying omentum had to be separated from its attachments. On removal, this portion of the omentum was found to contain several minute abscesses, so it was ligated and cut away. It was observed that the bladder wall was greatly thickened and contained many minute abscesses over an area from which we had peeled off the adherent portion of the omentum.

In our manipulations, the broad ligament abscess was accidentally ruptured. Fortunately the general peritoneal cavity was protected from infection by layers of compresses. In cleaning out the abscess cavity, the right ureter was completely severed an inch from its insertion into the bladder. An examination showed that the ureter was displaced so that it ran over the upper surface of the wall of the broad ligament abscess. Its walls were much thickened and the diameter of its lumen considerably increased in size. No method of ureteral anastomosis could be considered, as the proximal severed end was imbedded in dense inflammatory tissue. Fortunately the ureter was considerably elongated, so that when loosened from its bed beneath its peritoneal covering, the distal severed end could be brought to the bladder without stretching.

A sound was passed through the urethra into the bladder, pushed against the posterior upper wall of the bladder to the right of the median line. An incision was then made through the walls of the bladder, meeting the point of the sound, which was carried through the incision into the pelvic cavity. The point of the sound was then carried into the severed end of the ureter, when, with two Halstead forceps seizing the end of the ureter on each side, this end was slipped along the sound through the incision in the bladder. The sound was withdrawn and the incision in the bladder walls snugly closed around the ureter.

The ureter was made secure by stitches passed through its outer coats and through the bladder walls at the edge of the incision. These stitches were of fine silk and, when tied firmly, anchored the ureter in the bladder. Iodoform gauze was loosely packed in the abscess cavity and around the entrance of the ureter into the bladder, the free ends being brought out the lower angle of the abdominal incision.

Before returning the patient to bed, a soft rubber catheter was fastened in the bladder, and kept there four days. The packing was removed from the pelvis the fourth day.

The patient made an uninterrupted recovery. There was never any leakage of urine at the point of the graft. Aside from the presence of a sinus leading from the lower end of the abdominal incision into the pelvic cavity, which was closed after about three weeks, the patient made a perfectly normal recovery and has remained well to this time. There have been no symptoms pointing to any lesion of the urinary tract.

Therapeutics.

Rheumatoid Arthritis.

In this disease it is necessary to resort to cholagogues and alkalies, but instead of salicylic acid or colchicum, arsenic should be administered in some form and continued indefinitely. Given in as large doses as can be tolerated, and by carefully studying the effects of the drug and the judicious use of laxatives it is possible to guard its administration so that a tolerance for large doses can be established—a result much to be desired in order to secure the maximum benefit. Enormous doses of arsenic can be given hypodermically, and it is then much less toxic than when given by the mouth. The arsenate of sodium is free from any objection for hypodermic use. Fowler's solution is objectionable: it invariably causes much irritation and frequently forms an abscess.

Iodids are of some value, and many times serve as useful adjuvants to arsenic in the treatment of this disease. Recently some of the guaiacol derivatives have been highly recommended, particularly benzosol, guaiamar and guaiacol carbonate. It is, of course, necessary to consider general hygienic measures: massage, hot-air baths, change of climate, flannel next the skin, careful diet, etc.

The following for an arsenical bath has been recommended:

℞. Sodii arseniatis........................1-8 gm.
Sodii bicarbonatis..................100-150 gm.

For each bath.

When there is excessive pain and irritability, Stevenson recommends baths at 92° to 94° of ten to twenty minutes' duration, through which the galvanic constant current is passed. The alternating current may also be used.

Treatment of Gonorrheal Rheumatism.

Archibald E. Garrod says, in discussing the treatment of this disease, that the first object in its treatment is the cure of the urethral discharge in which it has its origin; with this end in view the ordinary remedies should be applied both by the mouth and in the form of injections.

With regard to the medicinal treatment of the disease little can be said that is at all encouraging. The salicylic drugs and colchicum alike are without appreciable effect upon the articular lesions, and lapse of time is the chief means of cure. Iodid of potassium is the drug which is most relied on, and he is in the habit of giving a mixture containing quinin with an alkali, together with the iodid and he believes that this line of treatment is by no means without good effect. If the pain be severe, opium may be administered. In severe cases the inflamed joint may need a splint, and the application of an ice-bag usually affords relief. When the effusion into the articular cavity is very abundant, paracentesis may be called for; and in the rare instances in which a joint suppurates, further surgical interference will of course be required.

The great tendency of the formation of fibrous adhesions must never be lost sight of; if the joint be put on a splint, care must be taken that if ankylosis should result, the limb may be fixed in as advantageous a position as possible. Although complete recovery of the affected joints is the rule, at least in the milder cases, some degree of stiffness often remains, which calls for passive movement under an anesthetic; the minor degrees of residual pain and stiffness may often be got rid of by a course at some mineral water resort where external treatment is carried out. It is, of course, only from the external application of mineral waters that any results can be looked for.

The following prescriptions will be found efficient in the treatment of gonorrheal rheumatism:

℞. Ung. belladonnæ
Ung. hydrargyri, āā............ʒi

M. Sig. Apply externally to the affected joint and bandage snugly.

℞. Guaiamar ....ʒii
Ung. belladonnæ
Ung. hydrargyri, āā.......................**ʒiv**

M. Sig. To be rubbed freely into the joint, which is then covered with cotton and bandaged.

℞. Guaiacol
Glycerin, āā...............................℥ss

M. Sig. Apply to joint, cover with cotton and bandage as directed above.

ACUTE ARTICULAR RHEUMATISM.

The writer's treatment of acute articular rheumatism is briefly as follows:

1. *Cholagogues.*—During the course of this disease there is invariably defective functional activity of the liver, the secretion of bile is lessened, it is increased in viscidity and there is lessened alkalinity, if indeed, the reaction of the fluid is not actually acid. The vegetable cholagogues should be selected and a combination similar to the following may be prescribed:

℞. Euonymin
Leptandrin, āā..........................gr. 1/4
Pulv. ipecac............................gr. 1/10
Podophyllin ....gr. 1/8

M. Ft. pil No. i.

A pill of this size should be given three times a day. The dose of each ingredient, however, may be diminished or increased according to the effect on the patient, it being necessary to secure two or three free bowel movements a day. The administration of remedies of this character should be continued throughout the course of the disease and well into convalescence.

Together with cholagogue medication the patient should be immediately put on alkaline-salicylate treatment. Sufficient alkalies should be administered to thoroughly alkalinize the patient, so that the urine, saliva, and sweat will become neutral or alkaline in reaction. This condition should be maintained during the entire course of the disease. Various alkalies may be employed for this purpose, prescriptions for various combinations being given below.

Simultaneously with the exhibition of these medicaments salicylic acid or the salicylates should be given. Salicylic acid undoubtedly shortens the duration of the disease, reduces temperature, and lessens the pain and swelling of the joints, but has no influence in preventing cardiac complications or relapses, and, in the writer's opinion, should never be relied on to the exclusion of alkalies and cholagogues. The greatest benefit can be derived from the salicylates when they are used early in the disease and in heroic doses at comparatively frequent intervals—not less than 20 grains every two, three or four hours during the first two days. If too serious gastric and cerebral symptoms manifest themselves, the drug may be decreased in amount or discontinued until the unpleasant action subsides.

The following prescriptions will give the reader an idea of various combinations of these remedies:

℞. Acidi salicylici
Sodii bicarbonatis, āā....................ʒiss
Glycerini ....℥iss
Aquæ menthæ pip., q.s., ad................℥iv

M. Sig. Tablespoonful every two hours for the first day, then every four hours.

℞. Potassii acetatis..........................℥ii
Acidi salicylici.............................ʒiv
Syrupi limonis...............................℥ii
Aquæ menthæ pip..............................℥viii

M. Sig. Tablespoonful every three hours.

R. Sodii salicylatis.................ʒv
Syrupi aurantii cort.................℥iv
M. Sig. Dessertspoonful every four hours.
R. Sodii salicylatis.................ʒiss
Sodii phosphatis.................ʒii
Sodii bicarbonatis.................ʒii
Aquæ menthæ virides.................℥iv
M. Sig. Tablespoonful every four hours.
R. Antipyrin.................ʒii
Sodii salicylatis.................ʒiii
Ammonii bromidi.................ʒiv
Aquæ cinnamomi.................℥iii

M. This prescription is recommended by Eshner in acute and subacute rheumatism in which considerable involvement of the muscles and great pain exist. It should be given in teaspoonful doses every three or four hours.

S. Solis-Cohen recommends the following in the acute form and in those predisposed to anemia:

℞. Sodii salicylatis.................ʒiv
Tinct. ferri chloridi.................ʒiv
Acidi citrici.................gr. x
Glycerini.................℥ss-iss
Olei gaultheriæ.................m. x-xxx
Liq. amnon. citr. (B.P.), q.s., ad.................℥iv

M. Sig. Dessertspoonful every two, three, four, or six hours.

The following prescription may be employed for the same condition:

℞. Acidi salicylici.................gr. x-xx
Ferri pyrophosphatis.................gr. v
Sodii phosphatis (crys.).................gr. l
Aquæ.................℥ss
M. Sig. At a dose.

Satterlee recommends the following alkaline mixtures:

R. Potassii bicarbonatis.................ʒii. ℈ii
Aquæ.................℥vii

M. Sig. One fluidounce of this solution to half an ounce of fresh lemon juice. To be taken while effervescing.

℞. Lithii benzoatis.................ʒss
Sodii bromidi
Potassii carbonatis (pura), āā.................ʒii
Potassii acetatis.................℥iss
Sodii phosphatis.................℥ss
Syrupi zingiberis
Aquæ menthæ pip, āā, ad.................℥vi

M. Sig. Two teaspoonfuls to a tablespoonful in a half glass of water, every four or six hours, after food.

It may be necessary to resort to one of the antipyretics, antipyrin, phenacetin, etc., for the reduction of persistently high temperature. Care, however, must be exercised in the administration of these remedies, to avoid cardiac and general depression. Digitalis or strychnin or both may be given with the antipyretic if the heart is weak. In addition to the influence of the antipyretics on the temperature they act as analgesics and serve to allay much of the pain from which the patient suffers. Should the pain be so severe as not to yield to the action of these drugs, it may be necessary to resort to an opiate; morphin or atropin may be given hypodermically, or a combination like the following is very efficacious:

R. Morphinæ sulphatis.................gr. $\frac{1}{4}$
Potassii bromidi.................gr. xxx
Chloralis.................gr. xx
Syrupi aurantii cort.................ʒii
Aquæ, q.s., ad.................℥i

M. Sig. Take at one dose, at 9 or 10 p.m. During the active course of the disease the patient should drink freely of alkaline mineral waters and of lemonade should he desire it.

More or less comfort may be derived from topical applications to the affected joints, the following having been used with varying success:

℞. Acidi salicylici.................ʒiv
Olei gaultheriæ
Olei terebinthinæ, āā.................ʒii
Lanolin
Adipis, āā.................℥iv
M. Sig. Apply to joints with friction.

℞. Guaiacol
Glycerin, āā.................℥i
M. Sig. Apply and cover with tissue.
℞. Acidi salicylici.................ʒv
Chloroformi.................ʒiv
Linimenti saponis.................℥vii
Alcoholis.................℥iii

M. Sig. Apply by means of steeped compresses and cover with oiled silk.

℞. Tinct. aconiti
Tinct. arnicæ, āā.................ʒiv
Linimenti belladonnæ.................℥i
Linimenti chloroformi.................℥iii
M. Sig. Apply externally as directed.

Hare recommends the following:

℞. Veratrini
Hydrarg. iodidi virid, āā.................ʒi
Petrolati.................℥i
M. Sig. Apply over joints affected.

Or, as Hibbing suggests:

℞. Salol
Etheris sulphurici, āā.................ʒi
Collodion.................℥i

To be applied around the joints.

Spongiopilin or lint or gauze steeped in a hot saturated solution of sodium bicarbonate and sprinkled with tincture of opium, exerts a very soothing effect when applied to the affected joint. Hancock advises 4 per cent. solution of carbolic acid applied warm on flannel, while Fraunfelter claims that heavy towels wrung out of ice water, wrapped about the joint and covered with flannel will afford immediate relief.

When the active inflammatory symptoms subside, alkaline and sulphur baths and judicious massage serve a useful purpose.

The complications, hyperpyrexia, pericarditis, endocarditis, pleuritis, etc., are to be treated according to the usual methods.

During convalescence it may be necessary to administer bitter tonics, either alone or associated with iron, strychnin, quinin or arsenic.

Lactic Acid in Leucorrhea.

In an article by Sneguirey in *Jour. de Med. de Paris*, attention is called to the use of lactic acid in neutralizing infectious bacteria in the vagina. He demonstrated that douches containing 3 per cent. of lactic acid quickly deodorized and diminished the discharge, besides changing its color.

It was found also that lactic acid, either pure or in solution, caused an abundant desquamation of epithelium when applied to the cervix or to the cavity of the uterus, and led to a cure of endometritis or endocervicitis with ectropion.

Treatment of Gonorrheal Myositis.

The only method found effective in two cases reported by Braque, in *Bulletin Med.*, 1898, 194, was the application of moist heat after all other measures had failed. The member was wrapped in compresses wet with a solution of boric acid heated to 35 C. covered with rubber cloth and cotton, renewed as often as they cooled. If the pain persisted, partial baths at 30 to 35 C. relieved it. As soon as the acute stage has passed, the macerated skin can be painted with equal parts oil of guaiacol and oil of sweet almonds. By the end of fifteen to twenty days the affection has entirely retrogressed.

Excessive Perspiration of the Feet.

R. Adler considers that all other methods of treatment have only historical interest since the advent of formalin and tannoform. He explains their action and advocates them warmly in *Deutsche Med. Woch.*, October 5, confirming the recommendations of formalin for this purpose by other writers noted in the Journal. He paints the sole with formalin once a day, and the spaces between the toes he powders with tannoform, if formalin can not be supported. If both sole and toes are affected, he combines the two, painting also the under surface of the toes with the formalin. Care must be taken not to inhale the fumes of the formalin as it produces unpleasant sensations in the mouth, nose and conjunctiva. If there are any signs of maceration the tannoform must be used alone until entirely healed, when the formalin should be applied.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Annals of Surgery (Philadelphia), November.

1.—*Forcible Correction of Angular Deformity Resulting from Spinal Caries. Edward H. Bradford and Robert H. Vose.
2.—*Blastomycetic Dermatitis (Pseudo-Lupus Vulgaris, Saccharomycosis Hominis, or Pseudo-Epithelioma with Blastomycetes). John E. Owens, Daniel N. Eisendrath and C. F. W. Ready.
3.—*Some Remarks on Symptoms of Bronchocele and Results of Operative Treatment. Francis J. Shepherd.
4.—*Results Obtainable in Treatment of Some Post-Paralytic Deformities. Jacob Teschner.
5.—*Successful Removal of a Fibrosarcoma (Desmoid Fibroma) of the Abdominal Wall, Involving the Iliac Vessels. A. I. Bouffleur.
6.— Sarcoma of the Stomach. F. V. Cantwell.
7.— Report of Case of Congenital Inguinal Tele-Lymphangioma of Large Size, with Remarks on Congenital Tumors of Childhood. Estella M. Riley.
8.— Actinomycosis in Man, with Special Reference to Cases which have been Observed in America. John Ruhräh.

American Gynecological and Obstetrical Journal (N. Y.), November.

9.—*Fractures and Other Injuries of the Child during Delivery. David J. Doherty.
10.—*Incontinence of Urine; Report of Peculiar Case. Emil Ries.
11.— Ovarian Cyst with Twisted Pedicle; Report of Case. Reuben Peterson.
12.— Treatment of Cystocele and Uterine Prolapse after the Menopause. J. T. Watkins.

Canadian Practitioner and Review (Toronto), November.

13.— Ophthalmology and the General Physician. G. Herbert Burnham.
14.— Acute Diabetes. A. F. McKenzie.

Southern Practitioner (Nashville, Tenn.), November.

15.— Mastoiditis. Hillard Wood.
16.— Hydronephrosis with Movable Kidney. Richard Douglas.

Medical Compend (Toledo, Ohio), November.

17.— Landmarks of the Digestive Tract. Byron Robinson.
18.— Nematoid Parasite known as Myorykites Weismanni, Inhabiting Muscles of Frog, Rana Temporaria. D. E. Haag.
19.— Creasote and its Derivatives in Treatment of Pulmonary Tuberculosis. John North.

New Orleans Medical and Surgical Journal, November.

20.— Neurility: Is It a Vibratory Motion? Ralph Hopkins.
21.— Muscular Anomalies. Henry D. Bruns.
22.— Chronic Asthenic Gastritis. D. Bornio.

Medicine (Detroit, Mich.), November.

23.—*Treatment of Goiter. A. I. Bouffleur.
24.—*Remarks on Diagnosis of Locomotor Ataxia. Hugh T. Patrick.
25.—*Acute Frontal Sinusitis. Henry L. Swain.
26.— General Surgical Anesthesia and Anesthetics. Ernest J. Mellish.

Brooklyn Medical Journal, November.

27.— Notes on Tubercular Kidney and Post-Operative Anuria. J. O. Polak.
28.—*Interesting Case of Heart Disease. C. Chase.
29.—*Traumatism of the Calvarium and Its Contents. G. G. Hopkins.
30.— Remarks on Modern Foot-Clothing. B. B. Mosher.

Medical Register (Richmond, Va.), September.

31.— Yellow Fever in Virginia. Chas. M. Hazen.
32.— Preservatives in Fresh Milk. James M. Whitfield.
33.— Report of Case of Labor Complicated by Puerperal Convulsions in Smallpox. William Hoskins, Jr.
34.— Peculiar Monstrosity. R. H. Garthright.
35.— Glycerin as a Sterilizer of Vaccin Lymph. E. C. Levy.

Georgia Journal of Medicine and Surgery (Savannah), October.

36.—*Shall We Operate in Every Case of Appendicitis? Virginius Harrison.
37.—*Some Experience with Cancer of the Womb. S. C. Baker.
38.— Some Experiences in a Country Practice. W. L. Story.
39.—*Cancer of the Breast. Samuel Lloyd.
40.—*The Rights and Wrongs of the Medical Witness in Courts of Justice. James B. Baird.
41.— Albuminate of Iron. L. H. Watson.

St. Paul Medical Journal, November.

42.— The True Professional Spirit. James E. Moore.
43.— Epidemic of Typhoid Fever in the 15th Minnesota Regiment. W. A. Dennis.
44.—*Uterine Deviations. William E. Ground.
45.—*Epidemic Cerebrospinal Meningitis. Henry M. Bracken.
46.— Complete Ligamentous, Partially Osseous Union Between Upper and Lower Maxillæ, with Adhesions of Cheeks; also Severe Ectropion of both Lower Eyelids with Occlusion of Lachrymal Ducts. Oscar A. Fliesburg.

Medical and Surgical Bulletin (Nashville, Tenn.), October.

47.— Tuberculosis of Mammary Gland, with Co-existing Carcinoma C. C. Warden.
48.— Hodgkin's Disease with Report of Case. E. G. Wood.
49.— Gynecologic Clinic. M. C. McGannon.

Buffalo Medical Journal, November.

50.— The Student in Medicine. Wm. H. Heath.
51.—*Report of Operative Treatment of Several Cases of Frontal and Maxillary Sinusitis. Frank W. Hinkel.
52.— Suphrenic Abscess. Prescott LeBreton.
53.—*House to House Operating. Edwin Ricketts.
54.— Duty of General Practitioner toward the Specialist. E. L. Moone
55.— Pen Pictures of Malaria. Nelson W. Wilson.
56.— Tracheotomy for Croup. C. A. Ellis.

Quarterly Journal of Inebriety (Hartford, Conn.), October.

57.—*A Note on the Influence of Maternal Inebriety on the Offspring. W. C. Sullivan.
58.—*New Phase of Criminal Morphomania. T. D. Crothers.
59.— Is There any Causative or Etiologic Relation Between Extensive Use of Alcoholic Drinks and Continued Increase of Epilepsy, Imbecility and Insanity? N. S. Davis.
60.— Professional Doubts Concerning the Existence of Hydrophobia H. D. Didama.
61.— Toxicity of Tobacco and Method of Eradicating It. Heinrich Stern.
62.— Alcohol on the Mind. A. Forel.
63.— Heredity as a Causative Factor of Inebriety. F. C. Myers.
64.— Legislation for Inebriates in Great Britain. Norman Kerr.
65.— Can the Dangers and Evils from Alcohol be Taught Successfully in Common Schools? Edward C. Mann.

Chicago Clinic, October.

66.— Additional Report in Case of Vaginal Atresia. E. H. Lee.
67.—*Normal Saline Solution: When to Use It; How to Use It. A. P. Heineck.
68.— Surgical Importance of Cervical Lymphatics. F. R. Sherwood.
69.— Gynecologic Clinic. Geo. W. Newton.
70.— Proctologic Clinic. J. R. Pennington.
71.— Stricture of Lachrymal Duct. H. W. Woodruff.
72.— Reflections on Anatomy of Inguinal and Femoral Hernia. W. T. Eckley.
73.— West Side Hospital Training School. Annie H. Byrne.

Illinois Medical Journal (Springfield), November.

74.—*Post Hoc Propter Hoc. W. T. Chenoweth.
75.—*Observations on Operation of Symphysiotomy. H. McKennan.
76.—*Maternal Impressions. Henry F. Lewis.
77.—*Caput Obstipum Musculare. M. L. Harris.
78.—*Imbrication Operations for Radical Cure of Hernia. E. Wyllys Andrews.
79.—*Operative Treatment in High Degrees of Myopia. Allen T. Haight.
80.— Case of Severe Tetanus Successfully Treated by Baccelli's Method. B. B. Griffith.

Dominion Medical Monthly (Toronto), October.

81.— Movable Kidney. F. B. Wilkinson.
82.—*Surgery Among the Insane: Its Difficulties, Its Advantages, Its Results. A. T. Hobbs.
83.—*Why the Undefending Pelvis. Ernest Hall.
84.— Case of Perityphlitic Abscess. Fred Parker.

Kansas City Medical Index-Lancet, November.

85.—*Nuclein Therapy in Typhoid Fever. J. M. Latta.
86.— Importance of Elimination as Shown by a Case Specimen. C. Lester Hall.
87.— Grip. Thomas R. Thornton.
88.— The Ovaries. Byron Robinson.
89.— Review of Recent Advances in our Knowledge of Anatomy and Physiology of Nervous System: Examinations. John Punton.

Memphis Medical Monthly (Tenn.), November.

90.—*Use of Tuberculin Preparations in Treatment of Tuberculosis. Llewellyn P. Barbour.
91.— Difficulties in the Diagnosis of Hernia, Simple and Strangulated. Thomas H. Manley.
92.—*Some Complications Met With Before and After Operations for Hemorrhoids: Their Causes, Prevention and Treatment. John L. Jelks.
93.— Some Personal Pickings at the Chicago Meeting of the Mississippi Valley Medical Association. John L. Jelks.
94.— Report of Two Interesting Surgical Cases. O. S. McCown.
95.— Case of Puerperal Eclampsia Treated by Both Old and New Methods. Frank Bates.

Indiana Medical Journal (Indianapolis), October.

96. —*Temperament and Disease, or the New Humoral Pathology. Albert E. Sterne.
97.—*Rest Cure for Consumption. Walker Schell.
98.— Headaches: Their Causes and Treatment. David W. Stevenson.
99.— The Modern Idea Regarding Tuberculosis. Carl Proegler.
100.— Hemorrhage in the New-Born. J. G. Kinneman.

St. Louis Medical and Surgical Journal, November.

101.— Squamous Palmar Syphilide. A. H. Ohmann-Dumesnil.
102.— Collective Reports of Glycerinized Vaccin Lymph. A. C. Barnes.
103.— Derangement of the Liver and Disease. J. S. Moremen.

Pediatrics (N. Y.), November 1.

104.— Contribution to Study of Cardiac Overstrain in the Young. F. J. Poynton.
105.— Successful Case of Splenectomy for Rupture. George Heaton.
106.— Case of Acute Infantile Hemiplegia, with Recovery. James Priestley.

Medical News (N. Y.), November 11.

107.—*Advance in our Knowledge of Typhoid Fever. Herman M. Biggs.
108.—*Eye Complications of Typhoid Fever. Alvin A. Hubbell.
109.—*Angiotripsy. Clement Cleveland.

New York Medical Journal, November 11.

110.—*Bath Treatment in Typhoid Fever. H. E. Ballard.
111.—*Relation of Pathologic Conditions in the Ethmoidal Region and Asthma. Clinical Phases. Clarence C. Rice.
112.—*Relation of Pathologic Conditions in Ethmoid Region of Nose and Asthma. Clinical Phases. E. Fletcher Ingals.
113.—*Pathology and Therapy of Cancer, with Special Reference to Cancer of the Stomach. Augustus C. Bernays.

114.—*Notes on Urethral Catheterism, Catheters and Bougies. J. W. S. Gouley.
115.— Brain Fatigue. R. Ellis.
116.— Treatment of Epididymitis. Robert C. Kenner.

Philadelphia Medical Journal, November 4.

117.—*Surgical Commission Man and Surgical Canvassing. G. Frank Lydston.
118.—*Local, Nonsurgical Treatment of Intestine in Typhoid Fever. DeLancey Rochester.
119.—*Report of Case of Hypernephroma of Kidney, with Description of the Clinical Symptoms, Operation and Pathology of this Class of Tumors. L. L. McArthur and Daniel N. Eisendrath.
120.—*Surgical Treatment of Perforation of Bowel in Typhoid Fever. W. W. Keen.
121.— Report of Case of Acute Cholecystitis Apparently Following Influenza. F. A. Packard.
122.—*Proper Closure of Aseptic Surgical Wounds. Willard Bartlett.
123.—*New Solution of Iodin for Local Application. C. A. Elsberg.
124.— Case of Tetanus Treated with Tetanus Antitoxin and Carbolic Acid. G. W. Wagoner.
125.— Case of Funnel-Chest. F. W. Larrabee.

Philadelphia Medical Journal, November 11.

126.—*Mammary Gland Therapy in Gynecology. John S. Shober.
127.—*Asexualization as a Possible Prophylactic of Increase of Crime, Idiocy and Insanity. D. R. Brower.
128.— Pathogenesis of Appendicitis. A. O. J. Kelly.
129.— Ectopic Gestation, with Report of Some Interesting Cases. J. M. Johnson.
130.—*Pathology and Therapy of Cancer with Special Reference to Cancer of the Stomach. A. C. Bernays.
131.—*Treatment of Yellow Fever by Use of Potassium Bitartrate and Salol. Edward F. Nunez.
132.—*Nomenclature: Myotonus—Normal Muscular Tone: Hypomyatonia—Hypotonia or Fränkel's Sign; Hypermyotonia—Kernig's Sign.

Maryland Medical Journal (Baltimore), November 11.

133.— Robert Liston, Surgeon. W. B. Platt.

Medical Record (N. Y.), November 11.

134.—*Ten Years' Experience with Typhoid Fever at the Roosevelt Hospital. W. H. Thomson.
135.—*Electricity in Respiratory and Cardiac Failure, with a Case of Paralysis of the Diaphragm. A. D. Rockwell.
136.—*Etiology of Scarlet Fever. Harry O. Hall.
137.—*Iodid of Potash in Treatment of Acne. Fred J. Leviseur.
138.—*Entrance of Air into the Circulation. J. D. McPherson.
139.— Fracture of Arm in a New-Born Child. Charles H. Holzhausen.
140.— Starvation Edema. Annie H. Patterson.
141.— The Hand as an Obstetrical Instrument. J. Hunter Wells.
142.— Septic Infection and Obstinate Hiccough during the Puerperium. William F. Barry.

Cincinnati Lancet-Clinic, November 11.

143.—Management of Face Presentations. Magnus A. Tate.

Boston Medical and Surgical Journal, November 9.

144.— Criminal Abortion with a "Dying Declaration." F. W. Draper.
145.— Case of Ptomain Poisoning. H. G. Blake.
146.— Report of Medico-Legal Autopsies. Frederick H. Baker.
147.—*Analysis of Cases of Eclampsia Occurring in Boston Lying-In Hospital During last Fifteen Years. F. S. Newell.
148.— Case of Uterine Fibroid. George H. Washburn.
149.— Case of Ovarian Cyst with Twisted and Strangulated Pedicle. W. L. Burrage.

Medical Review (St. Louis, Mo.), November 11.

150.—*Contribution to Etiology of Pompholyx. Martin F. Engman.
151.— Abscess of Lung. William Potter.
152.— Plea for Early Operation in Appendicitis. A. M. Hayden.

AMERICAN.

1. **Correction of Spinal Deformity From Caries.**—This paper commences with a general statement and analysis of a large number of cases compiled by Vose, showing actual results of the procedure of straightening the spinal column. The method suggested is that of using moderate force over the projection, by means of a specially devised frame, but a still simpler method and one more easily improvised is also described and illustrated. It consists simply in partially suspending the patient by a bandage extending over the back so that the weight of the whole trunk rests on one point, that of the spinal deformity. After-treatment will have to be, in every case, with a plaster jacket or similar apparatus. The authors object to the use of the term "forcible" correction of Pott's disease, and instead suggest the use of the phrase, "rectification of the curve."

2. **Blastomycetic Dermatitis.**—Owens, Eisendrath and Ready report an additional case of this affection, occurring in a woman aged 38, with microscopic and pathologic findings. The ulcer was removed by clean dissection and healed by skin grafting. The paper is illustrated and also contains a general discussion of the subject and cases heretofore reported.

3. **Operation for Goiter.**—This paper reports several cases of operative treatment of bronchocele. It is the custom of the author to advise operation in all rapidly growing goiters, especially if they be tumors of solid form. As to operation in true Grave's disease, he does not think it so beneficial, and the operation itself is not without danger in these cases.

4. **Post-Paralytic Deformity.**—Teschner insists on the value of educational exercises in post-paralytic deformity, and reports and illustrates a number of cases. He thinks that his exercises demonstrate the value of this method and the inefficiency of massage and electricity alone in cases of this kind. Wherever the nerve connections have not been completely destroyed, he believes the facts show that the impaired muscles can be made to functionate by intelligent and persistent treatment by the physician who has studied their action and function.

5.—See Journal, September 30, p. 820.

9. **Fractures and Injuries During Birth.**—The purpose of this paper is to point out a class of dangers that not rarely complicate and impede birth. Its importance is far from slight, and the author refers to the awkward misconstructions and criticisms, as well as the danger of damage suits, to say nothing of the misfortune to the child from these injuries. He enumerates the class of injuries that may occur, aside from asphyxia, during delivery, such as depression and fracture of the cranial bones; rupture of sutures and of sinuses; hematoma and rupture of various soft tissues—especially the sternocleido muscles—paralysis of facial and other nerves; fracture of vertebræ, jaw, ribs, humerus, clavicle, scapula, pelvic bones, femur, tibia and fibula; separation of epiphyses of these bones; dislocation of shoulder and hip-joints; rupture of sigmoid flexure; rupture of liver and other internal organs. These are most likely to occur in breech presentations, particularly induced or secondary ones. Doherty gives an extensive literature of these injuries and goes into details as to the resisting power of the different bones and parts to fracture or rupture. After delivery the babe should be carefully examined, especially if extraction or liberation of the arms was practiced, as injuries too frequently pass unnoticed or are attributed to later causes. He mentions the method of treating them when they occur, especially adapted to the condition and age of the child, and concludes by saying that the chief motto of the obstetrician should be "make haste slowly." Most of the accidents of obstetrics are due to interference against the judgment of the physician.

10. **Incontinence of Urine.**—Ries reports a case of incontinence occurring after marriage, due to coitus, and relieved by an operation displacing the meatus and putting it out of the way of injury or interference.

23. **Treatment of Goiter.**—The conclusions of Bouffleur's paper are as follows: 1. Successful treatment depends on accurate and early diagnosis of the nature of the goiter. 2. Struma should be treated by internal use of iodin or thyroid extract and the intraparenchymatous injection of iodoform or carbolic acid. 3. If these fail, either enucleation or partial thyroidectomy is indicated. 4. Adenoma should be treated by enucleation if the tumor is small, and by partial thyroidectomy if of large size. 5. Cysts should be treated by evacuation and injection of carbolic acid solution or iodoform emulsion. 6. If this fails, they should be enucleated. 7. Sarcoma and carcinoma should be treated by complete removal of the thyroid gland, with subsequent administration of thyroid extract. 8. The treatment of exophthalmic goiter is generally unsatisfactory, and at the present time surgical measures promise the best results. 9. Undifferentiated goiter may be treated by thyroid extract and iodin, but intraparenchymatous injections, and if necessary operative treatment, should be employed early. 10. The surgical treatment of all varieties of chronic goiter is, generally speaking, the most successful and most satisfactory.

24. **Diagnosis of Locomotor Ataxia.**—Patrick enumerates various symptoms which should be looked after by the physician in examining spinal disease with special referenc to the existence of locomotor ataxia. They are: 1. Loss o knee-jerk. 2. Argyll-Robertson pupil. These two are th chief ones in importance. 3. Fulgurant pains. 4. Vesica disorders. 5. Analgesia of the legs. 6. History or evidenc

of specific disease, not too recent. 7 and 8. Ocular symptoms. 9. Atypical pains and paresthesiæ. 10. Zone of pain at mammillary level, present in about 80 per cent., but not an early symptom. 11. Analgesia of the ulnar nerve. 12. Absence of normal pain on pressure of testes. 13. Gastric crises. 14. Diminished sexual power when psychic influences have been excluded. 15. Impairment of the muscular sense. 16. Ataxia. 17. Persistence of painful impressions, especially in the legs. 18. Muscular hypotonus and insensibility to pressure.

25. **Acute Frontal Sinusitis.**—Swain describes the symptoms of acute catarrhal inflammation of the frontal sinus, and suggests as treatment: relieving general constitutional conditions, and reducing tendency of blood to the head. A saline cathartic is almost always indicated. Locally, try to keep the nostrils free and secure free drainage. If seen early, ice may abort the inflammation. Hot-water bags externally may be of use, and blood letting performed early, spraying with Seiler's solution if the nostril is stopped, cocain in extreme cases, under the direction of the physician exclusively, followed with the aqueous extract of suprarenal glands. Probing into the frontal sinus canal under the influence of these can be done by the medical attendant, and if polyps, granulation, etc., are found, they should be removed. Rarely in acute cases is an artificial opening indicated.

28. **Heart Disease.**—The case here reported by Chase is one of very extensive dilatation of the heart from endocardial disease with various other lesions. Its special points of interest are stated by him as follows: 1. The amount of cardiac disease a man can have and still suffer no actual pain. 2. The enormous capability of a heart to dilate and hypertrophy to gain enough strength to do its required work. 3. The existence in one heart of three regurgitant and two stenotic murmurs, there being at the same time no valve that is working quite satisfactorily. 4. The relation between the heart's strength and the loudness of the murmurs, showing how very true it is that loud murmurs often are much more desirable than weak ones. 5. That the indications for treatment of heart disease depend much more on the condition of the heart walls than on the existence of a murmur over one or more of the different valve areas.

29. **Head Traumatisms.**—Hopkins reports several cases of injury to the cranium, some of which are of interest. In one case a 32-caliber bullet was fired into the forehead with suicidal intent, the ball entering the middle of the frontal bone about an inch above the root of the nose, passing directly backward. It could not be found, though the X-rays were employed, but the man made an uninterrupted recovery and was discharged six weeks after the injury. In a second patient the bullet entered the right temple just above the ear, but deflected, passed downward through the occipital bone into the thorax, and was lost in the abdominal cavity, and the patient survived three days.

36.—This paper was printed elsewhere; see JOURNAL, November 4, title 104, p. 1155.

37. **Cancer of Uterus.**—Six cases of uterine cancer are here reported, all in the advanced stage and therefore not amenable to successful treatment by operation, though it was attempted in most of them. The author offers the following suggestions: 1. Do not rely on pain or pronounced subjective symptoms to indicate the presence of malignant disease. If so, the knowledge may come too late to save the patient. 2. In cases of married women of child-bearing age coming under observation, when there has been absence of pregnancy for a number of years, say five or six, even though they do not complain of pelvic trouble, advise an examination, more especially if the patient has once borne a child. 3. Where there is lacerated cervix found, and the laceration has not healed, insist on its repair, as there is a justifiable belief that these lacerations are starting points of cancer. Treat uterine catarrh for the same reason. After labor, repair any laceration that may exist. 4. Where cancer is present, operate early, preferably by the vaginal route. If an abdominal section has to be made, and the uterus is so bound down as not to be lifted up at all from its bed, it is best not to attempt to remove it, but sew up the wound and let the woman get what comfort she can from the short time left to her.

39.—See abstract in JOURNAL, May 6, p. 998.

40.—See JOURNAL, May 27, p. 1148.

44. **Uterine Deviations.**—Ground argues against the operations for uterine fixation, maintaining that they produce abnormal conditions and that the displacements are not connected with the troublesome symptoms attributed to them. He agrees with the opinion of Winter and Theilhaber, that the symptoms usually referred to uterine displacement are due to independent diseases such as chronic inflammation in the pelvis, uterine catarrh, hysteria, neurasthenia and intestinal atony, and that the change in the position of the uterus is accidental and not responsible for them. He believes more good can be obtained in most cases, by reforming errors of dress, exercise, general and local treatment, etc.

45. **Epidemic Cerebrospinal Meningitis.**—After general remarks giving the opinions of the various authorities on the disease, Bracken concludes as follows: 1. We should not class all forms of cerebrospinal meningitis as of the true epidemic type. 2. We should not class cerebrospinal meningitis, occurring as a complication or sequel of certain epidemic diseases, such as typhoid fever, la grippe, pneumonia, etc., as epidemic. 3. We should be well guarded in diagnosing any given case as epidemic. 4. The prevention of error in diagnosing epidemic cerebrospinal meningitis should be avoided by a bacteriologic examination of fluid removed by lumbar puncture during life, when possible, or by post-mortem.

51. **Frontal and Maxillary Sinuses.**—Hinkel reports a case of empyema of the frontal sinus complicated with secondary antral disease, which was cured by the operation on the frontal sinus. He thinks that in this case there must have been drainage from the external wall of the nose into the corresponding antrum rather than into the anterior superior portion of the nasal chamber. The case, therefore, shows the difficulty of sometimes locating the source of a purulent nasal discharge. He also reports two cases of operation for chronic antral empyema, in which he followed the method of Luc, that is, after opening the antrum through the canine fossa, making a counteropening through the middle wall beneath the inferior turbinate and then closing the opening through the canine fossa by stitches through the mucous membrane.

53.—See abstract in JOURNAL, October 7, p. 912.

57. **Influence of Maternal Inebriety.**—The object of this paper is to present the results of certain special observations touching certain aspects of the question of maternal alcoholism as a factor in race degeneracy. Sullivan selected, from the female population of Liverpool prison, a series of drunkards who had borne children, and gives the deductions from a study of their history. So far as possible he selected cases free from other degenerative taints, so as to have the uncomplicated effects of alcoholism alone to consider: 120 female inebriates had borne 600 children, of which 265 lived over two years; 325 died under that age, including still-born. 21 of the women were able to give details of female relatives, sisters or daughters, of sober habits, who had contracted marriage with sober males and had borne children. The drunken and sober families contrasted as follows: drunken mothers, 21 cases, 125 children, of whom 55.2 per cent. died under the age of 2 years; sober mothers, 28 cases, 128 children, of whom 23.9 per cent. died under 2 years of age. He also studied the progressive effects of alcoholism on the children as showing the death-rate of the first, second, third, fourth, etc., born children, showing a decidedly rapidly increased percentage with each subsequent child. Of the children comprised in his series, 219 lived beyond infancy, and of these over 4 per cent. became epileptics. The effects of maternal inebriety are stated by him in the following general conclusions: 1. Maternal inebriety is a condition peculiarly unfavorable to the vitality and to the normal development of the offspring. Its gravity in this respect is considerably greater than that of paternal alcoholism. 2. While its influence, particularly as measured by the test of infant mortality, appears to be exercised in considerable degree indirectly through deterioration of the *milieu*, a large part depends on the primary action of the poison. The reality of this latter mode of influence is evidenced by the tendency to still-births and abortions, by the high rate of epilepsy in the surviving children, by the prevalent mode of death, by the effects of modifications

of the intoxication. 3. This primary influence of alcohol is due in part to the permanent effects of the poison on the maternal organism, inducing a transmissible degenerate condition; in part to a direct toxic action on the embryo, owing to continued excesses during pregnancy and lactation. 4. The first of these modes of primary influence is, by its nature, permanent, with a tendency to increase. The second mode, while tending also to a constant and constantly increasing operation, is susceptible of temporary augmentation or diminution. 5. Under these combined modes of influence the normal tendency of the family with alcoholic maternity is toward a type the inverse of the syphilitic family; that is to say, the first-born children are normal, then come more or less defective children who live beyond infancy, then children dying in infancy, then still-births, and finally abortions. 6. Deviations from this type are probably due in many cases to oscillations in the intensity of the second mode of influence. Deviations originating in this faction may be seen for instance in the death in infancy of the earliest-born children of the family, as a result of conception in drunkenness, and in the survival of the late-born children when the mother has been imprisoned during part of the pregnancy. A number of illustrative cases are reported more or less briefly.

58.—This article appeared under the title "Criminal Morphomania," in the JOURNAL of August 12.

67. **Normal Saline Solution.**—Heineck enumerates the following conditions in which normal salt solution is valuable: as a cleaning spray and douche in oral and nasal disorders; as a wash for wounds, skin graftings, etc.; in inflammatory fluxes; in surgical and puerperal infections; in malignant forms of syphilis that fail to respond to the usual treatment; in uremic poisoning; in puerperal eclampsia; in anemic patients before operation and in collapse during the same; in diabetic coma; in shock; in prolapse following large hemorrhage, and to combat the effects of hemorrhages generally, where it is the agent par excellence. He gives minute directions as to its use and the methods of administering by the rectum, subcutaneously, and by the veins. In the rectal injection sterilization is not necessary, in the others it is essential.

74.—See abstract in JOURNAL, May 27, p. 1172.

75.—Ibid, p. 1173.

76.—Ibid.

77.—Ibid, June 3, p. 1256.

78.—Ibid.

79.—This paper was printed in the JOURNAL of July 15.

82.—See JOURNAL, November 4, ¶ 100, p. 1217.

83. **Why the Unoffending Pelvis?**—Under this title Hall defends surgery in the insane, and claims that while the male and female inmates of asylums are about equal in number, the married males stand to the unmarried in the relation of 1 to 2, while these figures are reversed on the female side. This indicates that single men and married women have double chances of being insane and, therefore, the natural inference is that the difficulties following marriage are responsible for about half the insanity in women, hence. the justification of gynecologic surgery.

85. **Nuclein Therapy in Typhoid.**—Nuclein is indicated, according to Latta, in typhoid because it increases leucocytosis and thus adds to the resisting power of the cell structures in overcoming disease. As soon as he suspects typhoid, without waiting to insure the diagnosis, he commences to give protonuclein. usually giving large doses in the beginning, lessening the quantity until the system has responded to the treatment, the patient taking no other food nor medicine for two hours. At the end of the first half hour of this period, 4 to 6 ounces or more of hot water are given, and thirty minutes later the dose of nuclein, and then an hour allowed for absorption. In this way every three-hour period is divided into two parts, the first two hours devoted to nuclein and hot water and the last one to feeding and whatever other treatment may be indicated. In addition, the patient is allowed water at all times, preferably hot, and urged to drink it to the extent of a gallon or a gallon and a half every twenty-four hours. Frequently during the first twenty-four hours no benefit may be produced. The temperature and disturbing symptoms may increase. After that both will decline. The treatment is not an abortive treatment, still, it is not unusual to have a patient better on the eighth or tenth day than would be the case with the old method at the end of the third week. He does not trouble about any temperature less than 104, and has almost entirely discarded quinin and other antipyretics. He feeds the patient freely. No unusual rules in feeding are needed except that food is given only one hour out of three. As to the nature of the food, he follows the general directions in the text-books, though he feeds more freely than is commonly advised.

90. **Tuberculin.**—Barbour enters at length into the subject of tuberculin's advantages. He claims that its use has been demonstrated to be absolutely safe, and that it does exert a curative effect. As to what preparation to use, he says that the antiphthisin of Klebs and the purified tuberculin of von Ruck are the mildest, and he still uses them for cases with septic complications or with much temperature from any cause. For distinctly incipient cases he uses more toxic preparations, as they have the quicker effect. Koch's tuberculin R is, perhaps, the best of these. He has had decided success with these remedies notwithstanding the fact that he is aware that many good men deny their efficacy.

92.—See abstract in JOURNAL, October 14, p. 977.

96. **Temperament in Disease.**—Sterne offers as a classification of temperament applicable to conditions of disease the following three forms: the alkaline, the acid and the neutral. The first of these occurs in individuals where the general tendency is toward alkalinity and corresponds largely to the scrofulous or tuberculous diathesis. The acid is the opposite of this and includes the arthritic. The neutral temperament is what he considers the normal mean, special tendencies to disease not being present.

97. **Rest Cure for Consumption.**—Schell endorses the Murphy treatment of compression of the lungs with nitrogen injection, which he has used to great advantage in his practice. The immediate arrest of sharp pleural pains is one of the first things to attract attention. The fever also subsides almost at once; sepsis ceases and the cavities are closed by pressure, and where there is little disease of the free lung the patient is much more comfortable than before. The cough usually ceases at once or is superficial, appetite returns and in several of his patients he has seen an almost immediate gain in weight. After a few days or weeks respiratory movement of the compressed lung returns, though limited in all his cases. He has never used less than 85 cubic inches of gas, nor has he repeated the operation in any case. He has used it also to arrest troublesome hemorrhages that threatened life, and believes it a rational method in these cases. He does not think we should expect too much of this treatment. It can not altogether close lymph channels and blood-vessels, and therefore does not prevent the spread of the disease nor destroy the affecting bacilli, but it secures mechanical and physiologic rest, which is a great desideratum in many cases of the disease.

107.—See abstract in JOURNAL, November 4, p. 1165.

108.—Ibid, November 11, p. 1229.

109. **Angiotripsy.**—Cleveland, after a short historical sketch, describes the angiotribe of Tuffier and gives his experience with its use. He had been satisfied with Skene's electric clamp, but finds that this French instrument is in some respects an advance. He gives reports of twenty-four cases in which he has used it, and states its objections and advantages. Its advantages over the electric clamp are only its less expense and less difficulty in application. He still thinks the electric clamp safer for application to the upper or ovarian portion of the broad ligament when there are pus tubes. The precautions for the use of the angiotribe are, to manipulate the stump as little as possible after removal of the instrument, to apply it at right angles to the course of the vessels, and it is better to apply the instrument with the patient in the horizontal position. He has seen no case of crural phlebitis follow its use. There appears to be no danger of disturbing the clots in the arteries by ordinary necessary movements. The almost total absence of pain or any indications that a severe operation has been performed is the rule after the use of the angiotribe.

110. **The Brand Treatment.**—Ballard maintains that the

cold bath in typhoid is a perfectly practical method, and argues for its use. All that is required is a good trained nurse, a bath-tub and a neat clean room. He gives a bath about the temperature of the room every three hours when the temperature in the rectum reaches 102.2 or over, or 101.5 in the axilla. The principal contraindications are intestinal hemorrhage and peritonitis, and with this treatment, in the vast majority of cases there will be no call for a single dose of medicine. He reports a case in which he used the cold sponge and wet pack for five days without being able to reduce the temperature more than 1 to 2.5 degrees, and it finally reached 105.5 F., when the patient was again put into the tub with bath every three hours when necessary. This was continued for four days. The temperature did not rise above 102 and the patient made an uninterrupted recovery.

111. **Ethmoidal Region and Asthma.**—Rice's paper goes over the whole subject of nasal lesions in asthma. According to him it would seem necessary that when asthmatic symptoms coexist with ethmoidal disease, there should be present either nasal passages blocked with polypi, and hence mouth-breathing and a general catarrh, or else very acute chronic conditions which produce a neurotic asthma by vasomotor disturbances.

112. **Ethmoidal Region and Asthma.**—Ingals briefly reports several interesting cases showing the varied causation of asthma, the mere difference, for example, between the ground level and the sixth floor, the moving from one house to another, which in some cases have given relief. In one case the patient suffered from the disease in one part of a house, which was built partly of brick and partly of wood, and not in another. Still another case was reported where the attack was instantly cured in a young girl, by a fright.

113.—See below, ¶ 130.

114.—See abstract, p. 1293.

117. **The Commission Question.**—Lydston's paper is based on a letter which has been editorially referred to in our columns. He gives some of the answers received and comments thereon. He submits the question whether this practice is not dishonest.

118.—See abstract in Journal, November 11, p. 1229.

119. **Hypernephroma of Kidney.**—McArthur and Eisendrath report a case of removal of a morbid kidney, with full pathologic description. The tumor appears not to have been actively malignant, though its resemblance to a possibly malignant growth is noted. The authors discuss the general subject of these tumors. In their case the result of removal of the kidney was complete relief, the opposite kidney apparently doing all the work satisfactorily.

120. **Bowel Perforation in Typhoid.**—This is an abstract of a paper by Keen, which is to appear in full in the Journal.

122. **Closure of Aseptic Surgical Wounds.**—Bartlett concludes, after reviewing the subject, that in the light of recent teachings he would give silk the preference over catgut, and would use antiseptic instead of aseptic silk and impregnate his silk with silver citrate as the germicide offering the best warrant of results which may properly be termed ideal.

123. **New Application of Iodin.**—Elsberg recommends a 20 per cent. solution of iodin in equal parts of alcohol and ether as the best local application of this agent. He has in no case seen any iodin-poisoning from its use, and in one only did he obtain a well-marked iodin reaction in the urine. It has the advantage of rapidly drying, and only one coat need be painted on the part. He believes that therapeutic results can be obtained with it which can not be obtained with the much weaker official tincture of iodin commonly employed.

126. **Mammary Gland Therapy.**—First noticing the subject of gland therapy in general, and thyroid medication in particular, Shober remarks on the value of the mammary gland as a therapeutic agent in cases of metrorrhagia and menorrhagia, and in fibroid tumors as pointed out by Dr. Robert Bell. He tabulates nine cases of fibroids treated by this agent, and claims that in general the results have been more than merely satisfactory. The preparation used by him is from sheep, put up in tablet form, each tablet containing 2 grains; dose three to six daily. The mammary gland seems to act on the uterine muscle, either primarily or through its nerve-supply, increasing its contracting power and thus diminishing the blood flux to the mucosa and the tumor. He suggests the possible value of the combined use of the thyroid and mammary glands in these cases as being possibly more promising than either singly. He suggests caution and accurate diagnosis, where these are employed, that they may not be used ineffectually in cases requiring immediate operative interference.

127. **Asexualization.**—Brower reviews the facts in regard to the heredity and increase of criminal tendencies, as well as feeble-mindedness, insanity, etc., and suggests asexualization by ligation of the vasa deferentia or Fallopian tubes, as a remedy. In the criminal cases the accidental type may be excluded. For idiocy it should include all classes, and for insanity it might be limited to the degenerate types, using the term in the broad sense given by Kraepelin.

130. **Gastric Cancer.**—This article appeared elsewhere and was abstracted by us from the *Medical Sentinel* (see Journal, August 12, ¶ 39, p. 405). It has since appeared in the *N. Y. Medical Journal*, as noted in this department (see Journal, November 11, title 151, p. 1215; also above, title 113).

131. **Treatment of Yellow Fever.**—Nunez suggests the following treatment for yellow fever, which he has employed with success and can indorse. He begins it by giving the patient a dose of calomel followed by a saline purge, and then uses a solution of potassium bitartrate and fresh lime juice and the salicylate of phenol and salol, the latter preferably in tablets every two, three, four or six hours, according to indications. The cream of tartar renders the urine alkaline and stimulates the renal functions. It is also soothing to the stomach, relieving thirst and nausea, and by its laxative action insuring free movement of the bowels. The salol acts as an antiseptic on the intestinal tract and reduces temperature. The treatment is well borne by the stomach and kidneys, and tends to reduce albumin in the urine. No alcoholic drinks or nourishment are allowed in the first stage. The epigastralgia and rachialgia are treated exclusively by counterirritation with sinapisms. During the second stage the salol and cream of tartar and free use of diluent drinks, especially warm water with a few drops of lime juice, are continued until defervescence takes place.

132. **Nomenclature.**—Aldrich suggests the names hypomyotonia for hypotonia or Fränkel's sign and hypertonia for that of Kernig.

134.—See abstract in Journal, November 11, p. 1229.

135. **Electricity in Cardiac Failure.**—The following is the summary of Rockwell's article: 1. Direct electrization of the pneumogastric and phrenic nerves calls into activity the physiologic functions of these nerves. In the case of the former the action of the heart is depressed; in the case of the latter respiration is accelerated and strengthened. 2. Percutaneous applications in therapeutic doses, especially with the faradic current, altogether fail to appreciably affect the pneumogastric, while the same method readily affects the respiration through the phrenic nerve. 3. In respiratory failure, therefore, whether due to the poison of opium, aconite, or in apparent death from drowning, electrization is a powerful antidote. 4. In heart failure from chloroform narcosis also, the faradic current is a legitimate method of resuscitation, by keeping up the respiration without depressing the heart.

136. **Scarlet Fever.**—The possibility of infection from animals, especially from milk, in producing scarlet fever, is dwelt on by Powell, and he gives facts which he thinks support this view.

137. **Iodid of Potash in Acne.**—Leviseur recommends the use of iodid of potash in resistant cases of acne, giving it in 5-grain doses three times a day, in milk. These produce a modified iodism, showing itself in urticarial lesions, and the urine gives traces of iodin. When this is done the iodin medication is stopped and local treatment is substituted.

138. **Entrance of Air Into Circulation.**—McPherson calls attention to the possibility of sudden death from entrance of air into the circulation, through careless use of syringes in uterine and other douches, in hypodermic injections, and from the entrance of gases in cases of typhoid ulceration, etc.

147. **Eclampsia.**—An analysis of the 90 cases of eclampsia

occurring in the Boston Lying-In Hospital, since 1885, is made by Newell. He analyzes the symptoms in detail, but does not venture to give theories as to etiology. Twenty-one cases were fatal, and he considers the prognosis always serious. The general treatment in these was emptying the uterus and elimination. Pilocarpin was used in 56, of which 5 died of pulmonary edema, illustrating the danger of giving this drug to unconscious patients. Morphin was given in 2, in 1/4-grain doses, but not with good results; he thinks it is contraindicated. Saline infusion was tried on 8 patients, 4 of whom died; 2 of these were *in extremis;* of the 6 where the treatment was thoroughly carried out, 4 seemed hopeless and it was used as a last resort; 2 of these recovered. He thinks it would be rational to use this method as a routine treatment.

150. **Pompholyx.**—Engman believes that pompholyx is due to a derangement of the vasomotor system, either functional or organic, based on some systemic conditions. He reports five cases. The first three were clearly due to toxins of the malarial plasmodium. Another was probably due to intestinal toxemia, and a fifth, which occurred in a physician, was due to errors of diet, producing toxic products in the system.

FOREIGN.

British Medical Journal, October 28.

Discussion on Preventive and Remedial Treatment of Tuberculosis. Clifford Allbutt, William Broadbent and others.—In opening the discussion, Dr. Allbutt remarked on the heredity of tuberculosis or its predisposition, in which he still seems to have faith as an important factor in the origin of the disease in any individual case. The evidence of direct personal infection appears to him still curiously weak. The tubercle bacillus must speedily find congenial soil or it is probable that it soon succumbs; the long survival of individual bacilli is very dubious. Most tuberculous disease enters into the system by way of the throat, the bacilli being inhaled in the air and swallowed with the food. Direct infection of the skin is rare. He showed how the apex of the lung is especially vulnerable to the tubercular germs by its anatomic peculiarities, thus explaining why most cases of consumption originate there. Tuberculosis originating in other parts of the lung must be by an overwhelming invasion. In children the apex of the lung is less vulnerable, owing to the shortness of the bronchi in that region. He quoted statistics from Birch-Hirschfeld, showing that in 40 per cent. of 4000 autopsies taken consecutively tuberculosis was found, and in over 27 per cent. of cases dying from non-tuberculous diseases. He then explained how tubercle may be inclosed in lung tissue and no bacilli exist in the sputum. As to the diagnosis of early infection, it is of the greatest importance, as Turban's statistics show that patients treated in the very first stages are relieved, if not cured, to the extent of 84 per cent. Tubercle bacilli in the sputum is not a reliable test. Frequent examinations of temperature are better. Physical signs must be carefully looked after, and it is possible that the X-rays may be useful in showing the existence of early foci. Tuberculin seems to be almost a certain test in the early stages; the old tuberculin is preferred for this purpose. He next reviewed the sanatorium treatment and suggested that the personal influence and ability of the director may have a greater effect than is generally considered. Admitting that patients in the third stage of phthisis are probably incurable, that those in the second stage, or that of the physical signs of consolidation, can only be cured, if at all, by at least eighteen months of long and persevering treatment, it is seen that patients in the early stages alone, those often overlooked until too late, are the only hopeful ones for sanatorium treatment. He still believes in climatic advantages of alpine regions and high altitudes. The alleged overfeeding has received too much admiration; overfeeding can not be right, but high feeding is probably meant. It is interesting to see from Turban's tables that hereditary proclivity, other things being equal, is of no great importance in prognosis. Allbutt's own experience is that we may accept a long pedigree of ancestors with sound stomachs, and a gouty tendency is especially favorable to the arrest of the disease. The isolation from home and business is as important as in neurasthenia.

Dr. Williams finds that the mortality in London from phthisis is less in the regions immediately about the phthisis hospitals, where out-patients come every day with their indiscriminate habits of expectoration, than in other regions farther away, and he thinks that this speaks against the strongly contagious nature of the disease.

Sir Hugh Beevor stated that in London apparently about one-tenth of the population supplies one-third of the phthisis, and he called special attention to overcrowding as a cause.

Gelatinous Form of Sodium Biurate and Its Bearing on Pathology and Treatment of Gout. Arthur P. Luff—Luff's paper shows that from his experiments the higher the alkalinity of the blood from the presence of sodium bicarbonate, the more rapid and the more complete is the conversion of the soluble gelatinous biurate into the comparatively insoluble and crystalline form. In connection with this point it is instructive to bear in mind that mineral waters rich in sodium bicarbonate are well known to accelerate an attack of gout in many gouty subjects; and it is also of interest to here mention that from some observations he has been conducting for the past eighteen months, on the alkalinity of the blood of gouty patients, the results of which are not yet published, he has so far found in every gouty patient examined that the alkalinity of the blood is higher than the average alkalinity of the blood of healthy individuals, and since this increased alkalinity is due to a higher proportion of sodium carbonate or bicarbonate, it can be understood, in the light of the present investigation, why such blood is prone to hasten and to augment the formation of gouty deposits. On the other hand, it is seen that when the increased alkalinity of the blood serum is due to the presence of potassium bicarbonate, the conversion of the gelatinous biurate into the crystalline variety is delayed as to time, and is considerably diminished as to quantity, thus explaining the well-known beneficial effects of the alkaline potassium salts in the treatment of acute and subacute gout.

Experimental Contribution to Study of Gout. William Bain.—The author, from experimental investigation, finds: 1. That the methods in vogue for separating uric acid from blood are not sufficiently delicate for the detection of minute quantities. 2. That the phosphoric acid varies directly with the uric acid excretion, the patient being on a fixed diet. 3. That the alloxur bases in gout are not increased. 4. That colchicum does not seem to have any influence on the excretion of uric acid in gout. 5. That sodium salicylate and thymus increase the excretion of uric acid in gout. In the discussion, the value of the salicylates in gout was considered. Some found them of value, others not. In some cases they were considered directly harmful.

Relation of Pulmonary Tuberculosis to Mitral Stenosis. Hugh Walsham.—The rarity of mitral stenosis in cases of tuberculosis has been remarked, and some authorities have stated that the two conditions are incompatible with each other. Walsham finds that their coincidence is an extremely rare condition. In a thousand cases of well-marked pulmonary tuberculosis, he has had none displaying any of the signs of mitral stenosis, and in 130 post-mortem examinations of persons dying of consumption, he found well-marked signs of heart disease in twenty-one, but a typical mitral stenosis only once. He considers that many cases of the latter condition present signs which might well be taken for those of pulmonary tuberculosis, but their existing together is so rare a condition that no causal relation can be considered between them.

Form of the Chest in Phthisis and Its Significance. Woods Hutchinson.—In this paper the author shows that an arrest of development in puberty appears to be a predisposing factor in tuberculosis. The tuberculous chest is deeper and narrower and longer than the normal. Instead of being flat, as usually described, it is long or coffin-shaped. He believes that out-door exercise, especially climbing, throwing, etc., is almost necessary for the proper development of the thorax.

Excision of Rectum for Cancer, by a New Method, and Its Results. Thomas Carwardine.—The operation here described consists in a subperiosteal excision of the coccyx and fourth and fifth pieces of the sacrum, followed by median proctotomy and isolation of the gut below and on either side, and above with the presacral tissue and glands in continuity.

The lymph area is removed *in toto* with the growth. The union of the gut is made with silkworm gut sutures. The results as reported were almost perfect control of the bowels and flatus.

Lancet, October 28.

Mercury in Treatment of Heart Disease. Alexander Morrison.—The author calls attention to the value of mercury, especially in the chronic forms of heart disease associated with hepatic enlargement. It acts also as a powerful diuretic, as shown by Finkelstein and Landau, who find it especially useful when the cardiac dropsy is associated with non-valvular fatty disease of the heart. He concludes with mentioning the cases of syphilitic heart disease in which it is also of value.

Uncontrollable Vomiting Relieved by Laparotomy and Manipulation in a Case of Gastric Obstruction Due to Pressure of an Aneurysm. William Ewart and F. Jeffrey.—After reporting a case of uncontrollable vomiting due to obstruction by an aneurysm and relieved by laparotomy, Ewart reports an analogous case of duodenal obstruction by mesenteric traction, and discusses the mechanics of the condition. In cases of long-continued intestinal starvation, the intestinal channel may be absolutely empty and shrink both in length and circumference, and he suggests that this may possibly be a factor in the pathology of extreme cases of hysteric vomiting. We should bear in mind this possible cause in emaciated and exhausted subjects.

Annales del Circulo Medico Argentino (Buenos Ayres), July 21.

New Surgical Intervention in Peritoneal Tuberculosis. T. Varsi.—The author reviews the eleven methods of intervention on record, and observes that the response of Nature to a laparotomy by the formation of an exudate with an extremely agglutinative tendency is the cause of its success in these cases. As a very slight lesion is sufficient to cause the production of the exudate, he restricts the intervention to merely detaching the peritoneum from the abdominal wall after a median incision of 12 cm., and isolating it for a few centimeters around the wound, without opening it, taking up a fold between the finger and thumb to palpate its consistency, then sponging and suturing the abdominal wound. A case is described in detail; tuberculosis of the right apex and ascitic peritoneal tuberculosis. All the lesions were arrested by the intervention above described, and removal of fluid by puncture. Two years have elapsed, and the patient is practically cured, weighs four kilograms more than ever before, and the pulmonary lesions are still circumscribed.

Artificial Serum in Cure of Inguinal Hernia in Children. I. C. Garayzabal.—This modification of Lannelongue's sclerogenic method of treating hernia (see Journal, xxvii, 270, etc.) consists in the injection of an artificial serum —sodium sulphate, 5 grams; sodium phosphate, 2.5 grams to 50 grams distilled water—instead of using a caustic and irritating substance. Injected around the inguinal ring it causes the obliteration of the hernial sac by adhesions of its serous surface, while it also proves a tonic for the muscles which form the ring. One c.c. at a time is injected, and a compressing bandage applied. Three or four injections with an interval of eight to ten days resulted in the complete cure of the hernia in each of the seven cases thus treated to date.

Bulletin de l'Academie de Medicine (Paris), October 10.

Tractions of the Tongue in Asphyxia of Toxic Origin. J. V. Laborde.—Further details are communicated in regard to the revival of the person asphyxiated with illuminating gas. (See Journal, November 4, pp. 1162 and 1174.) A tooth was pulled out to enable the tongue to be seized, and tractions were continued for forty-five minutes before the subject was out of danger. In these cases the asphyxia is of toxic origin—not due to the suspension of respiration only, as in drowning—and the traction method must be continued until the heart recovers from the effect of the toxin, even after respiration has been re-established, as it may fail again. Laborde adds an instructive observation: an epileptiform vertigo induced by absinthe caused the fall of a young man into a canal. Rescued in a few minutes, traction of the tongue restored life, vomiting occurred, the veins of the neck swelled and the tractions were suspended. Injections of ether, frictions, etc., were then applied, but in fifteen minutes the cyanosis reappeared and death ensued. In all probability the final syncope—contraction of the heart—might have been successfully combated and the subject resuscitated a second time if the tractions had been recommenced. It is in this kind of recurring suspension of the heart function from toxic action that rhythmic tractions of the tongue promise to be peculiarly successful in restoring the heart function by reflex action. "Patience + rhythmic tractions = a life saved."

Progres Medicale (Paris), October 7.

Case of Dissecting Aneurysm of the Aorta. H. Pelon.—This observation was an autopsy surprise, as the diagnosis of "ganglionary tumor" had been based on the absence of the characteristic sign of aortic aneurysm: there was no arching, expansive pulsations, thrill, murmur, nor elevation of the cross of the aorta, retardation of pulse, pupilary phenomena, no disturbances in the innervation of the recurrent, no pulsation shown by radioscopy, and no syphilitic nor malarial antecedents. The symptoms indicated a tumor in the mediastinum, dyspnea, wheezing, cyanosis, pertussis-like cough, distinct areas of dulness, symptoms aggravated on reclining. The patient, a robust teamster, caught cold and was sent to the hospital with the diagnosis of laryngitis stridulous. The eighth day the dyspnea and cyanosis had not increased, but the right radial and carotid pulse were no longer perceptible, and he died in a sudden attack of asphyxia. The enormous aneurysm found in the descending aorta was filled with fibrinous and resistant clots, very little fluid blood. It rested with all its weight on the right bronchus, but the recurrent nerve above was not affected. All through the aorta patches of endarteritis were evident, with irregular slits forming a communication between the cavity of the aorta and emptied atheromatous foci. One of the foci contained a few clots, thus forming a tiny dissecting aneurysm, which suggests the etiology of the large one.

Revue Hebd. de Laryngologie, etc. (Bordeaux), October 14.

Adenoid Vegetations in Relation to Infectious Diseases of Children. A. Plottier.—A series of 268 cadavers of children was examined in respect to adenoid vegetations, and they were only found seven times in 54 cases of measles; once in 25 cases of gastro-enteritis, in 5 of scarlet fever, and in 12 of tuberculous meningitis; not at all in 5 cases of hereditary syphilis and 16 of athrepsia. On the other hand they were found 6 times in 27 cases of bronchial pneumonia, 5 times in 20 cases of pulmonary tuberculosis, thrice in 7 of whooping cough and 29 times in 53 cases of diphtheria. This proportion of 54.6 per cent. in diphtheria seems to indicate that the vegetations reduce the power of resistance and afford a *locus minoris resistentiae* while the receptivity for the disease seems to be augmented. They may be the primary seat of the lesion and escape notice. Possibly the catarrhal, latent or disguised forms of diphtheria may be traceable to this etiology, and also certain suddenly-appearing forms of croup, and even the invasion of the middle ear and nasal fossæ by the diphtheritic lesion. An attack of adenoiditis occurring in the course of convalescence from diphtheria may entail a relapse. "Methodical examination of the nasopharynx should be adopted for the rule in all cases of suspected or confirmed diphtheria." The necessity of operating *a froid* all adenoid vegetations in children, whether they cause disturbances or not, is strongly emphasized by these statistics.

Centralblatt f. Chirurgie (Leipsic), September 30.

Technic of Gastroenterostomy. M. Rutkowski.—One of the most urgent indications in a gastroenterostomy is to at once supply nourishment to the patient, while the motility of the stomach in these cases is below normal and is still further lowered by the trauma of the operation. Rutkowski fills this condition by making a tiny slit in the stomach wall a few centimeters above the completed Woelfler gastroenterostomy. He then introduces a drain tube through this incision into the stomach, and through the stomach-intestinal fistula into the efferent loop of the jejunum, suturing the stomach wall around the tube according to Witzel's or Kader's method. He removes the tube after ten days and the drain fistula heals in about a week. This simple, harmless, rapid little operation does not in the least compromise the success of the main operation, but relieves the stomach and enables the patient to be suitably fed from the start, and also prevents any crooking of the intestine. In three cases of cancer thus operated on the recovery of strength was remarkably rapid and no vomiting occurred in either.

Amputation of Prolapsus Recti. T. V. Dembowski.—The method of tying the prolapsed portion of the rectum around a thick bougie or stick to prevent hemorrhage during the operation is frequently the cause of constrictions later, as the stitches are taken in the compressed portion. Dembowski avoids this by passing a strong needle—about 25 cm. long and 4 mm. thick—through the prolapsed portion close to the base, in the direction from one tuber ischii to the other. The rectal walls are then spread out smoothly along the needle, and two iron rods the same length and thickness are applied each side of the needle and tied to it at each end, holding the prolapsed portion tight between them. The portion desired is then resected after cleaning and during constant irrigation, and the tissues sutured. One rod is removed at a time, and the vessels that start to bleed are ligated.

Deutsche Medicinische Wochenschrift (Berlin), October 26.

Study of Cumulative Action. L. Lewin.—Every final action of a substance capable of inducing a reaction in the animal organism, presupposes an accumulation of single, small, preceding actions, as the final dilation of the cervix for delivery is only accomplished by many slight, consecutive stretchings. In certain diseases what we call the incubation stage is nothing but the stage of accumulating the small effects of a metabolic, i. e., a disease-toxin. Medicines act in the same way. Morphin only induces sleep by the accumulation of a great number of slight paralyzing impulses, as the blood carries the poison to the brain and then sweeps it away again immediately. Aside from the action of ferments and enzymes which can not be compared with medicinal substances, cumulative action is chemical or functional. The chemical action is due to solid combination of the substance with tissues or juices for which it has an elective affinity, or to the mechanical penetration of the substance into the tissues, or its clinging to them, or to the protracted lingering of the substance in the organism on account of special conditions of absorption and elimination. The syphilitic toxin, for instance, probably forms a solid combination with certain tissues, and is only again liberated by certain occasional changes occurring in the metabolism. In the intervals the toxin is neither destroyed, used up, nor eliminated. Chemical cumulation is the only explanation of its behavior, and this may be strictly regional. There can be no question of a functional emulation, as the periodic recrudescence of symptoms of syphilitic intoxication in the most various tissues and parts of the body, with no functional connection between them, positively indicates the presence of the toxin itself in the body. Toxic chemical cumulation from slow absorption and elimination of an otherwise harmless substance is responsible for many deaths, such as from administering digitalis every hour or two, when its action is slow in manifesting itself and lasts a long while. Iodoform, sulphonal, podophyllin and similar substances are included in this category. Functional cumulative action does not require the presence of the causal agent in the organism. Besides the purely local cumulative action, which is really the continuation of the primary desired action, there are drugs and toxins which long after they have left the body, still act indirectly as the primary purely functional or histologic alterations become transformed into others under the influence of metabolic toxins produced by the affected body. Such action is usually called "after-effect," but in fact it is nothing but true functional cumulation. Restitution usually follows chloroform or ether anesthesia, for instance, but there are cases in which regulation does not occur and death ensues after days or weeks, or an affection apparent even after months and years. Cumulative action of chloroform has been described as late as three years after its first application.

Essence of Diabetes Mellitus. H. Leo.—Research extending throughout the last twelve years has at last been crowned with comparative success, as Leo has finally experimentally confirmed his hypothesis advanced in 1898, that the insufficient combustion of sugar in the tissues and juices of diabetics in cases in which the pancreas is intact is due to a toxic agent circulating in the body, which checks the function necessary for the combustion of the sugar. Twelve dogs were injected with a tenfold concentrated urine—after removal of the urea—derived from three light cases and three moderately severe. The results were negative with the slightly diabetic urine, but always positive with the other. The mellituria induced in the dogs was not very pronounced; the amount of sugar varied from 2 to 3 per cent., and was in one case 8.3. Tests for dextrose were negative.

Muenchener Medicinische Wochenschrift, October 24.

Cardiac and Nervous Disturbances of Gastro-Intestinal Origin. F. Jessen.—Three out of Faucher's five cases were physicians, and Jessen observes that medical men, on account of their irregular manner of life, are very apt to eat rapidly and chew defectively. He has noticed in himself the syndrome of cardiac and nervous disturbances to which he calls attention, and states that many a so-called neurasthenic, who has been treated for years under this diagnosis, with no symptoms indicating gastric or intestinal disturbances, is yet merely a victim of abnormal processes of putrefaction in the intestines and his troubles vanish with the removal of this cause. In Jessen's experience no therapeutic measure has proved effective except high injections of water flushing the upper part of the bowels. The return of the abnormal fermentations must be prevented with suitable diet, abundance of vegetables and carbohydrates. Most of the subjects are city people, accustomed to eating quantities of meat, and restricting the amount of animal diet will confirm the cure.

Extirpation of Spleen on Account of Subcutaneous Traumatic Rupture. M. Madlener.—Ten cases of removal of the spleen on this account are on record all but two men, aged from 4 to 45 years. The operation was from soon after injury to 16½ hours after. All recovered but three. Madlener adds another with the peculiar feature that a hernia resulting from the hasty suture required a second laparotomy a few months later, an hour and a half in length, which the patient, a woman of 57, supported without trouble, and convalescence was normal. The retroperitoneal and mesenterial glands were not found hypertrophied, and nothing was found to indicate an accessory spleen. The organ was ruptured by tripping and falling with the side on the edge of a water pail. Symptoms indicating severe injury of a viscus followed, and the ruptured spleen was removed. Convalescence was extremely slow: slight temperature and great weakness during two or three months, no pain. A year later the patient is in perfect health, working hard, hemoglobin 100 per cent., and normal proportions of corpuscles in the blood.

Wiener Klinische Wochenschrift, October 12, 15, 19 and 26.

Infant Nursing and Digestion. M. Pfaundler.—An infant nursing at the breast has to make energetic efforts to aspirate the milk, both sucking and squeezing with the jaws. Bottle-fed babies obtain the milk passively without effort, and hence they lack the increased secretion of saliva. The author states that bottle-fed babies can be easily taught to suck properly, and he adds tables which show the benefit derived when this is accomplished. He uses a small nipple on a glass tube extending into the milk, for this purpose. Considerable effort is required to draw the milk up through the tube, and this effort can be measured as a certain level is attained and maintained by means of a valve in the tube. None of the bottles and nipples on the market completely answer the purpose of compelling active sucking, and the matter requires further study.

Acute Lymphemia. F. Pineles.—The sudden prostration in apparent health, the rapid course of the disease, delirium and fever, indicate a still unrecognized infectious influence. In the observation related by Pineles, rabbits injected with 10 c. c. of the patient's blood did not seem to be affected and their health remained normal with no changes in the blood. Cultures were also negative. The question why the usual polynuclear, granulated leucocytes almost completely disappear from the blood, is answered by the supposition that they are derived from the bone marrow, and that when the marrow undergoes lymphoid degeneration the polynuclears disappear. The name "myelogenic leukemia," applied to ordinary cases of chronic leukemia, is incorrect, as in lymphemia also, the disease is partially of myelogenic origin. It would be better to distinguish them by calling one myelemia and the other lymphemia.

Primary Tuberculosis of Prostate Gland. G. Kapsammer.—The tuberculous abscess in the prostate perforated into the rectum and urethra in each of the three observations reported. Hematuria or bloody ejaculations were not noted in any case in the early stages. Infection from coitus seems to be excluded, as it had never been practiced in one case, a male of 17, although frequent onanism was admitted. The urethra would also be first invaded in case of infection from this cause. Kapsammer considers the etiology as the settlement of tubercle bacilli already in the organism, attracted to the prostate as the *locus minoris resistentiae.* The second patient was a young man frequently cohabiting, who noticed, a fortnight after coitus, the passage of "crumbly" pus from the urethra and this for three months, with desire to urinate every half hour, miction becoming more and more difficult. After a year pains were felt in the perineum, ceasing after evacuation of pus and urine per rectum one day. The third patient, a married man of 57, with good antecedents, one day noticed a small tumor in the perineum and subsequent fistula through which urine and pus issued, but never any disturbances in the act of miction, defecation or ejaculation. Both these patients were discharged much improved by instillations of guaiacol. In the first a painless swelling and induration of the right testis were first noticed, frequent desires to urinate, with smarting, miction gradually becoming more and more painful with later perforation of the abscess in the prostate into the rectum, and abscess with continuous discharge of urine, pus and feces, near the anus, requiring the water-bed; death came in thirteen months. At the autopsy the entire urogenital tract was found involved.

Peritonitis from Perforation of Biliary Passages. F. Winiwarter.—As the three patients were operated on at such different stages—second, eleventh and thirty-second day—the varying conditions could be instructively studied. The symptoms were those of perforation peritonitis, with a history of colics; resistance as of an effusion, but nothing to be learned by percussion or auscultation. The earliest operation disclosed an effusion of a pint of bile-stained fluid in the space between the transverse colon, stomach and liver, extending up to the diaphragm and down to the kidney, walled off from the rest of the peritoneal cavity by slight adhesions between the colon and abdominal wall. The colon thus formed a barrier to prevent the escape of the fluid issuing from the biliary passages, and affords favorable conditions for intervention in these cases. It was impossible to locate the point of the perforation. The gall-bladder was intact in all, and no stone could be palpated. In the operation the eleventh day, solid adhesions were found walling off the effusion, and the fluid was a pus of a peculiar ochre-yellow color, chiefly accumulated in the space between the liver and wall of the thorax, where it had formed a subphrenic abscess. The gall-bladder and biliary passages were almost unrecognizable from pseudomembranes. In the case operated on the thirty-seventh day, the effusion had become encapsulated and transformed into pus, the change manifested by night fever and sweats, diagnosed at first as a pleuritic effusion. The pus had eaten its way through into the colon, producing copious diarrhea with the odor of effusion pus, and the process had entered the natural healing stage, when the aspiration of gases from the intestine into the partially empty abscess cavity, during each expiration suddenly produced the clinical picture of a gaseous subphrenic abscess with sepsis and death in spite of the successful evacuation of the abscess by a laparotomy.

Etiology of Sydenham's Chorea. R. v. Krafft-Ebing.—A critical study of 200 reliable cases tabulated in this communication demonstrates beyond question that besides infection and intoxication in the etiology of this affection there is also a purely neurotic etiology, in which psychic trauma, on a foundation of a special predisposition, plays a predominant part, while this foundation is not necessary for the development of a toxic case. The infectious genesis must be excluded before assuming a purely neurotic origin for the affection. This is not an easy matter, as experience has shown slight localizations of articular rheumatism in the joints may have passed unperceived and have disappeared at the moment of examination, and endocarditis verrucosa may run its course without fever and without heart sounds. He adds an observation emphasizing the caution required in determining the etiology in certain cases. It suggests the question whether it is possible to distinguish between the purely nervous and the infectious chorea by the clinical picture: a nervous, excitable, young woman—no articular rheumatism, diphtheria five years before—experienced a psychic trauma (severe reprimand for calumny), and chorea developed at once, universal and intense actual anarchy of the muscles, area of heart dulness and sounds normal, no sugar, no albumin in the urine, no delirium, but extremely emotional. Choreic movements ceased only in profound chloral sleep, when the pulse dropped from 160 to 120. In three days fever appeared, the chorea unchanged, but the next day, collapse, no heart sounds, subdelirium and death. The autopsy disclosed *endocarditis verrucosa recens ad valvulum mitralem* with catarrh of the alimentary canal and hyperemia of lungs and leptomeninges. We note in the tables that articular rheumatism with endocarditis preceded the chorea in 30 cases; the same without cardiac affection in 28; other infectious diseases in 17; psychic trauma—sometimes merely a horrible dream—in 13 males and in 53 females, while no cause could be assigned in 21 males and 38 females. Individual predisposing causes were hereditary or family antecedents in 24 men and 49 women; neuropathic, non-hereditary constitution—serious illnesses, etc.—12 men and 23 women; malformation of the skull almost exclusively from rachitis, 26 men and 49 women. The importance of this latter factor in the etiology of chorea and epilepsy has never been duly recognized. Pregnancy may enhance the predisposition, as noted in 4 with hereditary and 2 without—1 articular rheumatism, 1 fall on the ice.

Grece Medicale (Syra), September.

Suture of Radial Nerve with Immediate Restoration of Sensibility. A. P. Petridis.—A soldier, 29 years of age, was wounded by a bullet passing through his forearm, severing the radial nerve and the humerus; "amputation was only omitted because the Greek troops were in retreat." Eighteen months later the forearm, and particularly the hand, were very much ankylosed and atrophied. It was impossible to open the fingers even with force, and there was no sensibility in the hand. After chloroform—no Esmarch—a lengthwise incision along the radial nerve enabled the two stumps of the nerve to be seized. They were much enlarged, and imbedded in cicatricial tissue. As the bullet had carried away a fragment of the nerve, the stumps could not be shortened, and were merely slightly scraped and brought together by flexing the hand, and two catgut stitches taken through the nerve trunk and two other indirect stitches through the neurilemma. Before rising from the table, while just recovering from the effect of the anesthesia, the back of the hand was pricked with a needle, which the patient perceived, the first sensation felt in the hand for eighteen months. Four hours later sensibility seemed to be completely re-established in the region, and twenty-five days after the plaster cast was removed, massage, electricity and passive exercises practiced, and by the end of three months the hand was functioning well from every point of view.

O Brazil Medico (Rio), September 15.

Intradomiciliary Localization of Yellow Fever. J. B. de Lacerda.—The extensive plans for the sewering of Rio Janeiro are still far from realization, but Lacerda asserts that the eradication of yellow fever does not depend on improved sewerage, but on the radical disinfection of the houses. The methods hitherto in use have been ineffectual on account of the symbiosis of the yellow fever germ with a fungus. He has established that the former is protected by the latter against the action of even 1 per 1000 sublimate (see Journal, July 8, p. 100). The only effectual method now known is to scrape and singe all surfaces inside of infected buildings, and this thoroughly done will eradicate yellow fever without waiting for expensive sanitation. "Burning the houses is the most expeditious measure, but this is barbarous and only applicable in a conquered country."

Tribuna Medica (Rio Janeiro), July 15 and 30.

Study of a New Pathogenic Agent: "Bacillus Testicularis." D. de Mattos.—An observation of a case "new to science" is described: a man 29 years of age, married, with two healthy children, no morbid antecedents except a light and thoroughly cured gonorrhea in youth, noticed a year before an inflamed spot in the left groin with pain irradiating to the testis, and in time a small ulcer developed and spread until the scrotum on this side was reduced to a vast solution of continuity covered with abundant vegetations. The sore invaded and progressed in a serpentine course on the penis. The other testis was involved to a lesser extent, and other small ulcers appeared around the genital organs; pus extremely fetid. There was slight lymphangitis, but no ganglion engorgement. The other organs were normal. The epithelioid cells of carcinoma were evident in the structure of the ulcers, isolated and scattered, or in columns or agglomerated in heaps, congregated in the meshes of the network formed by the stroma of a connective tissue character, with divergent fibers. The lesion was a pure culture of a new bacillus, a small, short rod, decolored by Gram, occurring singly or connected end-to-end like an 8 or forming a palisade; very motile; spores in middle or ends, both aerobic and anaerobic; 35 C. most favorable temperature; killed by 60 C.; no peptonizing properties; flourishes on usual media; bouillon cultures at 37 C. become cloudy in a few hours, with a delicate ring around the colony forming a kind of halo which in time forms a veil over the surface but settles in fragments when shaken. By the fifteenth day the bouillon has regained its transparency and becomes alkaline. In gelose there is a specific formation of round isolated colonies which blend into a polycyclic line forming a uniform and continuous ribbon. There is no indol at first, but traces by the thirtieth week. The bacillus testicularis, as Mattos calls it, possibly resembles Loeffler's bacillus more than others, but is an entirely distinct micro-organism. As the cultures grow older the shape alters, the bacillus becomes segmentated until it resembles a chain of cocci or stretches out into a filament 5 or 6 mm. long. The patient was dismissed entirely cured in six weeks, by merely local antiseptic treatment, hot compresses and cauterization later, with mercurial pills and potassium iodid internally.

Societies.

COMING MEETINGS.

Southern Surgical and Gynecological Association, New Orleans, La., December 5-7.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.

Indian Territory Medical Association, Wagoner, December.

Peoria Medical Society.—This Society held its annual meeting in Peoria, Ill., recently, and the following officers were elected: president, O. J. Roskoten; vice-president, E. M. Sutton; secretary, H. M. Sedgwick; treasurer, Emma Lucas; censor, J. C. Roberts.

Keokuk County Medical Society.—The first annual meeting of this Society was held October 31, at Sigourney, Iowa. The newly-elected officers are: president, C. L. Heald, South English; vice-president, C. M. Hamilton, Thornburg; secretary, A. P. Johnson, Sigourney; treasurer, L. B. Oliver, Sigourney.

Central Missouri District Medical Society.—At the annual session of this Society, held in Sedalia, Mo., November 2, the following officers were elected for the ensuing year: president, E. H. Culp, Otterville; first vice-president, J. B. Norman; second vice-president, J. W. Marsh, Tipton; third-vice-president, W. H. Evans, Sedalia; secretary, H. B. Cole, Sedalia; treasurer, W. O. Dunlop, Sedalia.

Salt Lake County Medical Society.—The subject of discussion at the recent meeting of this Society, held in Salt Lake City, Utah, was the use of formaldehyde in the preservation of milk. The unanimous opinion was that formaldehyde was injurious and that the practice, if it existed, of using preservatives in either milk or food should not be permitted. There was, however, a difference of opinion as to the wisdom of the Society, with the limited knowledge it possessed regarding the subject, taking any action at this time, especially as the courts are about to be asked to pass on a test case.

American Public Health Association.

Twenty-seventh Annual Meeting, Held in Minneapolis, Minn., Oct. 31,-Nov. 3, 1899.

(Concluded from p. 1224.)

Second Day—Morning Session.

CAUSE AND PREVENTION OF INFECTIOUS DISEASES.

Dr. P. H. Bryce, Toronto, Can., secretary of the Provincial Board of Health of Ontario, presented the report of the committee on the above subject. Smallpox was first considered, as thousands of cases have occurred in the United States with the mortality not exceeding 40 per cent.

Insects as disseminators of disease play an important part, this subject having received much attention during the past five years, plague, anthrax and other infectious diseases being carried by flies, and the plague bacilli having been found in the intestines of flies. He also referred to the mosquito as a carrier of malaria parasites, and the part played by birds in disseminating disease. As to propagation of the plague, the report states that infection from a rat to a rat has not been known to occur when they were placed in a cage where fleas are.

PREVENTION OF CONTAGIOUS DISEASES.

Dr. F. W. Wright, New Haven, Conn., presented a paper on this subject, pointing out that as early as 1500 B.C. formulated rules for preventing disease existed among the Egyptians, while the ancient Hebrews also had their regulations. He referred to the spread of infectious disease through commercial transactions. Medical men should inspect the schools daily and the board of health should be sustained by the public.

TRANSMITTABLE DISEASE IN SAN LUIS POTOSI.

Dr. J. E. Monjaras, San Luis Potosi, Mex., discussed this subject with general remarks on the etiology and prophylaxis. He emphasized the fact that after pathogenic microbes have been introduced, the morbid elements must always exist in the neighborhood to result in infection. He also spoke of the part played by soil, dwelt at length on the microbic origin of influenza pulmonalis in his city, and the management of smallpox and vaccination.

CAUSE AND PREVENTION OF INFANT MORTALITY.

Dr. Ernest Wende, Buffalo, N. Y., presented this subject. A group of scarlet fever cases occurred on a milk dealer's route. This is carefully watched. He instanced the occurrence of fifty-six cases in children of twenty-seven families, on one route, the investigation showing that two cases of the disease existed in the milk dealer's family. In the Health Department is kept a "milk register" showing the source from which the milk is obtained by dealers. This system has not only been successful in this disease but also in lessening cholera infantum and typhoid fever.

FORMALDEHYDE AS A MILK PRESERVATIVE.

Dr. A. G. Young, Augusta, Me., submitted a paper on this subject, concluding that formaldehyde used as a preservative impairs the nutritive value of milk and interferes with the digestive processes. In either case it is only a question of dosage.

DAIRIES IN MEXICO.

Dr. Jos. L. de Lagomez, Mexico City, Mex., presented a paper on this subject He dwelt especially on the condition of dairies in the past, contrasting this with the present condition.

Second Day—Afternoon Session.

TYPHOID FEVER FROM PUBLIC WATER-SUPPLY.

Dr. John J. Leal, Paterson, N. J., presented a paper on this subject. He referred to an epidemic of typhoid which occurred in his city from Oct. 1, 1898, to April 30, 1899. Of those taken sick, 98 per cent. had been using the infected water, and the sickness originated from one case, although the drainage from this single instance was not directly into the river, but through a succession of streams, tributaries, puddles, etc.

TYPHOID IN NEWARK, N. J.

Dr. H. C. H. Herold, Newark, N. J., in his paper on this subject, said that water containing from 3 to 10 grains of sewage to each gallon of water is dangerous to use and liable to bring on intestinal disease. He referred to the cases mentioned in Dr. Leal's paper and the loss from a monetary point of view.

BACTERIAL PURIFICATION OF SEWAGE.

Mr. H. W. Clark, chemist of the Massachusetts State Board of Health, Boston, presented a paper on this subject. He dwelt on the methods employed in the experimental stations at Lowell and Worcester, Mass., and detailed the micro-organisms, etc., of domestic sewage. He predicted that in time chemical methods for its purification will be relegated to the past and only natural methods be in vogue, e.g.: the land method, the sand and soil replacing the chemical.

SANITARY MUNICIPAL ORGANIZATION.

Dr. C. S. Chapin, Providence, R. I., presented a paper intended to examine into the existing sanitary organization of the countries belonging to the Association. Regarding Mexico, he said that there were eleven boards of health in that republic. The members are appointed by the governors of the states and their term of office is indefinite. They are appointed on merit alone and do not hold the appointment by political intrigue. He finds vaccination very much neglected in that country. As to the United States, he entered into the duties that should be performed by the health official, and what should be expected from the public, and said that in large cities the control of the milk, food, ice, hospitals, bacteriologic laboratories, the removal of refuse, etc., should be in charge of the municipal boards of health.

RURAL SANITATION IN ENGLAND.

Mr. W. H. Allen of the University of Pennsylvania, Philadelphia, presented a paper on this subject, and said that the county medical officials in England give advice which is cheerfully complied with by the people of the rural districts. Even the pig-sties, cow-sheds, barns, etc., are built according to regulations.

Third Day—Morning Session.

HISTORY OF VACCINATION.

Dr. William Bailey, Louisville, Ky., presented a paper on this subject. He referred to the first indorsement of this procedure in England in 1717, and its later approval by physicians in that country in 1721, and also spoke of the later work of Jenner.

ACCIDENTS OF VACCINATION.

Dr. W. C. Woodward, Washington, D.C., in his paper on this subject said that mechanical and biologic processes in vaccination are of equal importance. He described auto-vaccination and the serious results that might ensue therefrom.

RESOLUTIONS ON THE LATE DR. ROHE.

The following resolutions were offered and adopted:

Resolved, That the announcement by the President of the Association of the sudden removal by death of Dr. George H. Rohé, while president of this Association, has been received by its members with profound regret.

Resolved, That we recognize in Dr. Rohé, not only the accomplished scholar, the versatile author, the sagacious adminstrator, and the well-trained sanitarian, but as well the courteous, the gentleman, the genial companion and faithful friend.

Resolved, That in his departure from the sphere of his earthly activities, when his life and his fame were scarcely at their zenith, this Association, in common with the medical profession, with sanitary science and benevolent enterprise, has sustained a great and lasting loss.

Resolved, That these resolutions be prominently placed in our Transactions, and that a copy of the same be transmitted o his family.

(Signed)
Dr. Benjamin Lee,
Dr. C. A. Lindsley,
Dr. F. Montizambert,
Dr. C. Hampson Jones.
Committee.

WHAT CONSTITUTES AN EPIDEMIC.

Dr. U. O. B. Wingate, Milwaukee, Wis., presented the report of the committee appointed to define an epidemic, with he following definition: "An epidemic is an outbreak of a ommunicable or infective disease affecting a dozen or more individuals in quick succession before the recovery of the first ase, whether arising from a single focus or from several foci n a neighborhood."

DEFINITION OF DIPHTHERIA.

Dr. Herbert Hill, Boston, presented a paper on this subject. His conclusions are that the disease is present only when the active diphtheria bacillus producing recognizable lesions is present. In many cases the clinical evidence is so complete that the presence of the bacillus can be inferred, but it is advisable to demonstrate it microscopically in all cases. "The presence of diphtheria bacilli without the production by them of recognizable lesions does not constitute the disease of diphtheria; such patients nevertheless constitute to others possible sources of infection and of development of the disease. In order to place the matter on a definite basis, he suggested that this distinction be recognized by so wording all regulations relating to the supervision of diphtheria that, in so far as may be advisable for the protection of the public health, the demonstration of the presence of the diphtheria bacillus should be sufficient to empower health authorities to proceed with measures directed to prevent its dissemination.

Third Day—Afternoon Session.

NATURAL TREATMENT FOR TUBERCULOSIS.

Dr. R. O. Beard, Minneapolis, Minn., in his paper on this subject, favored quarantining tuberculosis as effectively as we do yellow fever. Regarding forests, he pointed out that New York has her Adirondacks; Ontario her Algonquin Park; Colorado, her high altitudes; Arizona, her dry plains; California, her warm equitable climate; Texas, her plains; Minnesota, her cool, dry, pure air. This led up to consideration of the proposed National Park and the preservation of the Minnesota forests as health resorts for tubercular patients.

ETIOLOGY OF CANCER.

Dr. A. Walter Suiter, Herkimer, N. Y., offered the following resolutions:

Whereas, The encouragement of the endowment of research in the science of etiology and prevention of diseases is entirely within the province and mission of the American Public Health Association, and,

Whereas, By recent legislative action the State of New York has taken a decisive step in the advance by the grant of an annual appropriation for the establishment and maintenance of a laboratory with all modern appliances for the persistent prosecution of studies in the etiology of cancer, and

Whereas, Results have already been obtained which lead to the hope that the discovery of the etiology factor in the production of this much dreaded disease may be at hand; therefore,

Resolved, That the American Public Health Association take this occasion to place on record its approval of all similar efforts to the end that state and national patronage in special and general scientific research may be universally established.

REPORT OF TUBERCULOSIS CONGRESS.

Dr. E. A. de Schweinitz, Washington, D.C., presented a report of the proceedings of the international congress, regarding the past methods of checking and curing of tuberculosis, held at Berlin, May 24 to 27, 1899. The report was of such length that it was not read, but simply referred for publication.

LEPER HOME OF LOUISIANA.

Dr. C. P. Wilkinson, New Orleans, La., in his paper on this subject, described this home, situated on the Mississippi not less than one-half mile from any other habitation. The home proper has extensive grounds, with large orchards and gardens, and is surrounded by a high fence for seclusion of the inmates, with an elevated platform for the use of the patients who wish to look beyond the enclosure.

Fourth Day—Morning Session.

TREATMENT OF GARBAGE AND EXCRETA IN MILITARY CAMPS.

Dr. Benjamin Lee, Philadelphia, in his paper on this subject spoke of flies as disseminators of disease, and said that of the 5731 American men who died in our late war with Spain, only 450 died as results of wounds received in battle, but more than nine-tenths of disease largely preventable, and the majority of these without ever having left our own soil. Not only typhoid, but also epidemic dysentery and camp diarrhea may be attributed to this cause. Not only house flies, but bed-bugs, fleas, mosquitoes, roaches, and gnats disseminate disease. We should meet the occasion: 1. By destroying them when abolishing them proves impossible. 2. By preventing them from having access to garbage piles. 3. By protecting cooked food, milk, and sugar from them. He went at length into the methods for carrying these out.

WASTE DISPOSITION AND ITS ADVANTAGES?

Mr. MacDonough, C.E., New York City, presented a paper on this subject, much of which was devoted to figures on the results and analyses of refuse in New York City, including not only the disposal of garbage, but street sweepings in general. He said that in a general way, utilization plants can not be economically introduced in cities of less than 100,000 inhabitants, as the long haul necessary in thinly populated cities makes reduction out of the question if economy is considered. Crematories can be erected in larger cities and the reduction system by this method is most desirable and economical in waste disposal work.

NEXT STEP IN WASTE DISPOSAL WORK.

Col. W. F. Morse, New York City, in his paper, agreed with the above speaker regarding crematories, etc. He gave a short description of disposing of garbage by reduction, as carried on in Boston, Philadelphia, and New York City, and discussed the following points: 1. The disposal of waste of the city without creating nuisance. 2. Reduction of cost of cremation by employing the waste as fuel. 3. Separation and sale of articles that have a value. 4. Utilization of the surplus heat from burning waste.

The Executive Committee submitted various resolutions, some of which were adopted, among which was one relative to securing advance sanitary teaching in our universities and medical schools. The definition of the term epidemic, as given above, was not approved of and was re-referred to the committee for the ensuing year.

OFFICERS, ETC.

Indianapolis was chosen as the next place of meeting, and officers were elected as follows: president, P. H. Bryce, Toronto; first vice-president, H. M. Bracken, Minneapolis; second vice-president, Juan Brena, Zacatecas, Mexico; secretary Charles O. Probst, Columbus, Ohio; treasurer, Henry D. Holton, Brattleboro, Vt.; executive committee, J. L. Leal, Paterson, N. J.; C. P. Wilkinson, New Orleans, La.; J. F. Kennedy, Des Moines, Iowa; A. W. Suiter, Herkimer, N. Y.

The Council also recommended for the officers of the new section of chemistry and bacteriology, the following: chairman, Theobald Smith, Boston; vice-chairman, F. F. Westbrook, Minneapolis; secretaries, Wyatt Johnson, Montreal, and Adolph Gehrmann, Chicago.

N. Y. Academy of Medicine.

Section on Pediatrics, Oct. 12, 1899.

CASE OF SCURVY IN AN INFANT.

Dr. W. L. Carr presented a paper on this subject. The patient was an emaciated child of 12 months. The lower extremities were painful on motion and kept semi-reflexed, and on the left thigh there was a swelling of considerable size. The mouth was reddened and the gums dark blue and swollen. There were no hemorrhages and no petechial spots on the skin. There was some beading of the ribs, but the signs of rachitis were not marked. The mother stated that she had been able to nurse the child for only two weeks. A milk diet did not appear to agree with it, and she resorted to various proprietary foods, one after another. Of late these foods had been used without the addition of any fresh milk. The child was placed on beef juice, orange juice, and a small amount of milk, and within a few days it was able to take an adequate quantity of milk and all the scorbutic symptoms had entirely disappeared.

Dr. Henry Koplik said that the apparent paresis of the upper or lower extremities was one of the first things noted in scurvy.

Dr. S. Seabury Jones had recently met with two cases of scurvy in infants. At first he simply gave the children beef juice and milk, without any fruit, and there was comparatively little improvement. He then added orange juice to the diet, and there was immediate recovery. This seemed to show that fruit was essential in the treatment of the condition.

Dr. A. Jacobi said that there are certain cases of scorbutus where the unusual symptoms occur first. He had seen two cases in which hematuria was the only symptom, with the exception of very slight lividity of the gums in one instance and a few petechiæ in the other. The immobility of the limbs so commonly noted was simply the result of pain. The diagnosis between scurvy and rheumatism was very easy, as, except in extremely rare instances, the joints were not at all affected in the former.

ANTIPYRETIC DRUGS: THEIR USE AND ABUSE IN TREATMENT OF FEVER.

Dr. A. Jacobi read a paper on this topic. He spoke of those who object to the use of antipyretics, on the ground that a high temperature is required to kill bacilli and produce antitoxins. But if the high temperature is left to kill the microbes, it will be likely to also destroy cells, and the patient too. In such diseases as typhoid fever, pernicious fever, and the plague, the mortality has been shown to correspond, as a rule, to the continued high temperature. It is the remissions which avert danger. In some cases the causes of the febrile action require attention. In others it is necessary to treat the symptoms as they arise, and it is here that the so-called expectant treatment has its justification. To be satisfied with merely depressing temperature is a mistake, but to allow a pernicious fever to run its course with high temperature is equally injudicious. In the case of infants and young children, their comparatively feeble powers of resistance and the facility with which hydremia is caused are always to be borne in mind. More perish by high temperature in the decline of febrile diseases than in their onset.

Dr. Jacobi considers quinin in fair doses distinctly antipyretic. He spoke favorably of its use in pneumonia, and advised that here, as in all febrile diseases where it is employed it be given during the remissions. In the case of children, he recommended the fresh powder given in syrup of coffee, or in chocolate.

For forty years he had employed ergot with great success in certain cases of chronic intermittent fever, with tumefaction of the spleen, which had resisted quinin and arsenic. Sometimes quinin or arsenic is efficacious after the use of ergot, in cases which had before resisted these.

When the remissions are very short, it is a good plan to reduce high temperature by an occasional dose of antipyrin in connection with quinin. The salicylate of sodium can often be combined with quinin with good results.

He seemed to consider antipyrin the most satisfactory drug of its class. It increases the tension of the pulse and blood-pressure, and the peculiar exanthemata resembling measles, which it sometimes produces—seldom, except after a first dose—appears to be the result of its action on the blood-vessels.

Acetanilid, while it does not disturb the skin nor the stomach, should never be employed, as it is an aniline derivative and positively poisonous.

Phenacetin resembles it, but is much milder and often serves a good purpose. It is commonly given in much too large doses, and he has found that, as a rule, 3 gr. is quite enough for an initial dose in adults. A correspondingly small dose should be used in the case of children.

Alcohol has a great advantage over other agents by reason of its rapid absorption from the stomach. It should always be given properly diluted, and in large enough doses it is a decided antipyretic. In the ordinary aseptic fevers it is seldom called for. In the septic fevers, however, there is no better antiseptic agent than alcohol in full doses, and here there is almost no dose of it that will not be well borne. He has not infrequently given as much as a pint of whisky in twenty-four hours, to a growing subject. It will cease to be tolerated just as soon as the sepsis ceases to exist. It is inadvisable to give alcohol in the first stage of pneumonia, because 4 per cent. of it is eliminated by the lungs, and this extra burden should not be thrown on these organs in their already embarrassed condition. It is also contraindicated where there is nephritis.

HYDRIATIC MEASURES IN MANAGEMENT OF FEBRILE DISORDERS OF INFANCY AND CHILDHOOD, WITH A PRACTICAL DEMONSTRATION OF VARIOUS HYDRIATIC PROCEDURES.

Dr. Simon Baruch, in a paper on this subject, after som general remarks on the value of the external application o waters in fevers, said that in children the temperature of th vater should be considerably higher than in the case of dults. In typhoid fever the first bath should be at a temperture not lower than 90 degrees. Frictions, while the patient s in the bath, are also a matter of the greatest importance. Iydrotherapy is the most efficient agency at our disposal for ombating cardiac exhaustion, as this method of treatment has he effect of stimulating both the vascular and the nervous ystem. He does not know of any other one agent that will ccomplish both of these things.

The common practice of passing a cold sponge over the body f a fever patient is of doubtful value. In making use of blutions, gentle mechanical irritation should always be emloyed, and this is best accomplished by means of gauze held n the hand. The temperature of the water used should be at rst about 90 degrees, and reduced 1 degree at a time to 60 egrees. In pneumonia, the full bath should begin at 95 egrees, last five to eight minutes, the temperature in the neantime being reduced to 80 degrees. It should also be folowed by friction. In typhoid fever, on the other hand, the vater is to be cooled before placing the patient in it, and the ath should last ten to fifteen minutes and not be followed by rying. In pneumonia, a chest compress is also of service, he temperature at first being 100 degrees, and afterward radually reduced. In desperate cases of bronchopneumonia e is in the habit of ordering a stimulant affusion of about 0 degrees, while the patient is in a bath of 100 degrees, and his is generally followed by a prompt amelioration of all the nost distressing symptoms. Cold affusions are also indicated n scarlatina, a disease in which full baths, as a rule, are not vell borne.

New York County Medical Association.

Oct. 16, 1899.

CHOLELITHIASIS AFFLICTING A WHOLE FAMILY.

Dr. Carl Beck presented four out of a family of ten, all f whom had suffered from cholelithiasis. The first patient vas a woman, and especially interesting because of the fact hat, in addition to a successful operation for the removal of all-stones, she also had a transposition of the viscera. Dr. eck said that he believed this the first instance where galltones had been removed from the left side of the body. kiagraphs were offered as proof of the existence of this transosition. Additional interest was lent to the case of the nother, 72 years old, in that it was the first of a long series in hich Dr. Beek had succeeded in securing photographic proof f the existence of gall-stones, by the aid of the Roentgen rays.

SPASTIC SPINAL PARALYSIS.

Dr. Edwin Gaillard Mason presented a child suffering rom spastic spinal paralysis, the points of interest being the arly development and the decided improvement that had aken place independently of treatment.

Dr. W. M. Leszynsky alluded to the rarity of such cases, xcept when secondary to a brain lesion.

Dr. M. C. O'Brien called attention to the fact that the unavorable prognosis often made when these cases were seen arly in life was not always borne out by their subsequent ourse.

EW GALVANOCAUSTIC INSTRUMENT FOR BOTTINI TREATMENT OF HYPERTROPHY OF PROSTATE.

Dr. Robert Newman exhibited this instrument, which he ad devised. The chief features were the absence of the sual water-cooling device and the use of a platinum "burner" hich could be made to project to a greater or less extent from he catheter-shaped body of the instrument.

VACCINATION.

Dr. David P. Austin read a paper on this subject. His arge experience as a vaccinator for the health department ave additional weight to his statements. He said that there ad been scarcely any failures in the primary vaccinations, hile about 60 per cent. of the second, and 30 per cent. of the hird vaccinations had "taken." He took strong ground on he subject of revaccination, believing that in private practice hildren should be vaccinated once a year until immunity had een established, and that this immunity would continue for he remainder of the person's life. He had himself been accinated upward of fifty times, but none had proved successful after the fourth one. He said that if our troops had been vaccinated several times, at intervals of about one month, instead of only once, they would have escaped smallpox when exposed at Manila.

Dr. J. H. Huddleston, while thoroughly in favor of revaccination, could not accept the theory that a life immunity could be conferred. When in a given case, vaccination with good virus proves unsuccessful, it merely signifies that the person is immune for the time being, but how long it would last can not be definitely predicated. As proof of the correctness of this view, cases were cited from the records of North Brother Island showing that successful revaccinations had been done within six months after a successful vaccination.

Dr. Frank S. Fielder quoted statistics to show that the mortality from smallpox steadily diminishes with the number of successful revaccinations, and that it is comparatively trifling in persons presenting evidence of having been successfully vaccinated several times.

Dr. Henry Illoway referred to the case of a boy who had been repeatedly vaccinated without success, and who had, in his own hands, yielded the same result, although the brother and sister, vaccinated at the same time with the same virus as a control, had given good results. The fact that he had been able six months later, to vaccinate the first boy sucessfully on the leg had suggested the possibility of varying susceptibility to vaccination in different regions of the body, owing to local differences of circulation.

URETHRAL CATHETERISM, CATHETERS AND BOUGIES.

Dr. John W. S. Gouley presented an exhaustive communication bearing this title. As to the selection of catheters, his advice is to eschew the cheap linen instruments in favor of the silk catheters, which are cheaper in the end, although the first cost is nearly double. He said that after using one of the American-made silk catheters 300 times its surface is still as smooth and perfect as at first. The cheap commercial catheters, popularly called "ten-cent catheters," are, however, useful in many cases, and can be boiled a number of times without injury. Web catheters and rubber catheters are alike injured by the ordinary fatty lubricants, as well as by glycerin; hence, a soap lubricant was advised. Both varieties of catheters will deteriorate after a time, but this tendency to harden and become brittle can be greatly retarded, particularly in the case of the rubber instruments, by keeping them in tightly-closed glass tubes so as to diminish oxidation as much as possible. When it is necessary to enter the bladder in a person having a number of false routes, either of two methods was advised. The first is that known as Hey's, and consists in passing a silk catheter, No. 9 or 10 English, armed with a curved stilette, down to, but not into, the mouth of the false passage, when, by withdrawing the stilette at the same moment that the catheter is pushed forward toward the bladder with the other hand, the instrument will be made to override the false passage. The other is by the use of that most precious, but little appreciated instrument of Mercier—the invaginated catheter. This instrument can be successfully used in 95 per cent. of cases of false routes. (See No. 114, p. 1282.)

Dr. L. Bolton Bangs said that if there were any one thing which his long experience would lead him to emphasize it was gentleness and delicacy of manipulation as the keynote to success in this field.

Dr. Joseph D. Bryant emphasized the need for the utmost cleanliness as well as gentleness. It is very seldom indeed that the use of a rigid catheter is indicated.

Dr. S. Alexander said that the paper just presented would have been complete but for an omission, due to the innate modesty of the author, viz.: the neglect to mention the good that could be accomplished by the use of the Gouley catheter in connection with a filiform bougie. Personally he had not been able to succeed very well with the invaginated catheter, but had done much better with the Gouley instrument.

Dr. Carl Beck recommended that for emergency cases the practitioner should carry with him a metallic catheter, which could then be easily sterilized by boiling. Although it is practically impossible to sterilize the urethra, it is advisable, before exploration of this canal, to inject a 5 per cent. solution of iodoform in glycerin.

Cincinnati Academy of Medicine.

Oct 23, 1899.

PURPURA HEMORRHAGICA.

Dr. Charles Belt read a paper with this heading. In an experience of twenty years in general practice, he has seen but this one instance of this disease. He, however, not infrequently saw a purpuric eruption as a complication to other distinct affections. He divided purpura into three varieties: purpura simplex, in which the spots appear on the legs in crops, with or without articular pains; purpura—peliosis—rheumatica, characterized by fever, multiple arthritis and an eruption usually purpuric in character but occasionally urticarial or erythematous; purpura hemorrhagica, with, in addition to the eruption, severe hemorrhages from the various mucous membranes or into the brain. This latter condition usually attacks delicate and feebly nourished children, particularly girls, but may come on in individuals in robust health. Some cases are exceedingly malignant, and death ensues within twenty-four hours, the so-called purpura fulminans. The blood is as a rule but little changed, there being a diminished number of red corpuscles with a relative increase in the number of whites, as would naturally be expected after a severe hemorrhage. His patient was a girl of 14 years, well developed and nourished, of good family and personal history. The onset of the attack was sudden, with a chill followed by fever with its usual accompanying symptoms. A second chill followed within twenty-four hours; this in turn was followed by an eruption of from thirty to forty purpuric spots, by vomiting of coffee-ground vomit and by the sudden onset of severe cerebral pressure symptoms that rapidly ended the scene. He is reasonably certain that the brain symptoms were due to hemorrhage, on account of their sudden onset. At the time of the first chill he had given quinin in divided doses, the child receiving about 15 gr. After the onset of the rash he gave her several grains of an antipyretic. He does not think that either of these drugs had anything to do with the eruption. She had taken quinin before, on his own prescription, in larger doses without any bad effects. A remarkable feature was the stopping of respiration fully two minutes before the cessation of cardiac action. The child had been successfully vaccinated about six months previous to this last sickness; there had been no cases of smallpox in that region. She had met with no trauma though a most persistent bicycle rider. She was not hemophilic. He does not regard the case as one of cerebrospinal meningitis. An important feature in the case was that the girl was beginning to show signs of entering menstrual life.

The discussion took up purpura in general. Some thought that the case was one of cerebrospinal meningitis, as many instances of this disease had been reported throughout the state during the time of this patient's illness.

Dr. Charles Caldwell reported several instances of purpura, notably one occurring in the eruption of secondary syphilis.

Dr. J. L. Cleveland regarded purpura not as a disease but as a symptom, and a symptom common to many infectious, toxic, and cachectic causes. He is inclined to the belief that the case was cerebrospinal meningitis.

Oct. 30, 1899.

INDUCTION OF LABOR ON ACCOUNT OF CONTRACTED PELVIS.

Dr. W. D. Porter, in the summer of 1896, was called to see a primipara who had been in labor about twenty-four hours, hence this paper. The pains had been strong and regular, but the head had remained above the brim. Efforts to deliver with forceps had caused the head to engage, but beyond this had accomplished nothing. The child was dead, so the head was perforated and delivery effected without much difficulty. The woman made an interrupted recovery.

About fourteen months later, then in the third month of pregnancy, she came to his office for advice. The diameters of the pelvis were such that he advised the induction of labor one month before term. He learned later that she had had an abortion produced at about the end of the third month. In October, 1898, she again called, again pregnant, and as she had moved to the city, placed herself entirely in his care, and agreed to induction of labor when he should deem it best. He consented to her demand that she was to be exempt from any surgical operation, believing that if he had not, she would have again resorted to an abortion.

At the end of the seventh calendar month, he noted that the head could be forced into the pelvic brim, but not easily. With the passage of each week this procedure became more difficult. He thereupon decided to terminate the pregnancy in the latter part of the thirty-fifth week, counting from the first day of the last menstrual period. She was accordingly sent to Christ's Hospital in April. After thorough preparation, the cervix was dilated, first with the fingers and then with Barnes' bags. Within two hours, uterine contractions began. These contractions continued rather irregularly for from six to eight hours. During the most of this time the Barnes' bags were in position. The cervix was by that time well dilated, but the head had not descended. Chloroform was then administered, the head crowded down from above as much as possible, forceps were applied with reference to the pelvis, and the head was dragged into the pelvis as far as could be done with moderate force. The forceps were then accurately reapplied to the sides of the head. From this point progress was slow and considerable force was necessary.

In about an hour the child was delivered in good condition. The mother's condition, however, was such as to cause anxiety. Her pulse was weak and rapid and her respirations shallow. She presented all the features of shock, though there was no undue hemorrhage, nor was there any discoverable lesion of the soft parts. Strychnia was used hypodermically, and heat applied externally. It was two hours before her condition became reassuring, but she made a good recovery, her highest temperature being 100.5.

The child was delivered on the 242d day from the last menstrual period, or thirty-eight days before the computed date of full term.

OVARIAN PREGNANCY.

Dr. J. M. Withrow gave the following history of a case: Mrs. J. H., aged 33, the mother of two children, 12 and 14 years old, was the subject of an obstinate retroflexed and prolapsed left ovary. She had also suffered from an almost intolerable dysmenorrhea for several years. She had been referred to him by Dr. W. E. Shaw, and he had performed ventrofixation three years ago. For some months after the operation she had done fairly well, but her dysmenorrhea had gradually returned until she was no better than before the operation. The uterus, however, remained in anteversion, but the ovary was prolapsed, tender, and enlarged. About the first of October, while preparing dinner, she had been seized with a sudden attack of sharp pain in her left side, so severe as to completely prostrate her. Dr. Shaw was called and found her almost in collapse, but with the abdomen so tender that a satisfactory bimanual examination could not be made. She kept her bed for several days and was then sent to the essayist. She had menstruated in the latter part of August, but had missed her period in September and was three weeks overdue when the above-mentioned attack of pain occurred. On examination he found the uterus enlarged and a tender mass the size of an orange behind the left broad ligament. A diagnosis of ectopic pregnancy was made and she was sent to the Presbyterian Hospital for operation. Her pulse was uniformly above 100, and her temperature from 1 to 2 degrees above normal; her general condition bad. After a week's rest, a laparotomy was performed. Before making abdominal section, the uterus was curetted, and a decidual membrane—also shown—was raked out of the cavity of the uterus.

The specimen presented showed the tube intact without a break and its fimbriated extremity free from the ovary. The ovary, continuous with the gestation sac, was found deep behind the left broad ligament. It was attached to the anterior wall of the rectum by the sac and a mass of old blood clots. There was no corpus luteum on the other ovary, and none elsewhere on the ovary presented, so that all the indications of an ovarian pregnancy were present. The patient made an interrupted recovery. He presented the specimen on account of the extreme rarity of the condition. Kelly, in 1000 sections, with 23 ectopic gestations, never saw an ovarian pregnancy, and Martin, in 77 saw but one. Thomas had 33 cases, none of which were ovarian, and Lawson Tait said it is highly probable that every extrauterine pregnancy takes its origin in the Fallopian tube.

He was very much interested to note that the fundus of the uterus was attached to the anterior abdominal wall by a ligament only half the thickness of a lead pencil and about 2½ inches long. It was enough to hold the uterus erect and prevent much retroflexion, but as it was only three years since it had been broadly attached to the abdominal wall, he thought that it was quite an argument against the utility of ventrofixation as a permanent cure of retrodisplacements of the uterus..

FIFTY-NINE ABDOMINAL SECTIONS.

DR. CHARLES L. BONIFIELD, at the May meeting of the Cincinnati Obstetrical Society, had reported twenty-four cases operated on during the earlier months of the year. Of fifty-nine cases there had been four deaths as follows:

CASE 1.—A boy, 12 years of age, was sick for four days, with appendicitis. In the beginning the symptoms had neither been severe nor characteristic, but when he saw the patient there was general distension of the abdomen, diffuse tenderness, rapid pulse and profuse perspiration. An incision was made over the appendix, without difficulty striking an abscess containing about two ounces of pus. The appendix was not in evidence and but little search was made for it. The cavity was washed out with normal salt solution, an iodoform gauze drain inserted, and the external incision partially closed. Twelve hours later the intestine ruptured and the boy died from the shock.

CASE 2.—Menstruation began at 14 and was regular until about six months before this patient was first seen by the writer. For three months there was amenorrhea. Her health had been good until shortly before menstruation ceased, when she began to complain of severe pain in the lower part of the abdomen and in the right hip. She had lost flesh very rapidly, and was now unable to leave her bed. Physical examination showed a tumor extending almost to the umbilicus and developed most on the right side. It was apparently semisolid. There was no ascites. A diagnosis of ovarian tumor, probably malignant, was made. She entered the Good Samaratin Hospital, and on February 4 a large sarcoma of the ovary was removed. There was a little free fluid in the peritoneal cavity and this had permitted numerous and extensive adhesions to the omentum and intestines. The hemorrhage that followed the breaking up of these adhesions was something frightful, but was controlled by packing with hot sponges. The patient rallied slowly from the operative shock, and died four days later from exhaustion.

CASE 3.—A woman, aged 60, complained of a very slight irregular discharge from the vagina for a few months. Digital examination revealed the uterus slightly larger than it should be in a woman ten or fifteen years past the menopause. It was freely movable. Inspection showed a healthy cervix from which issued a slight discharge. Malignant disease of the body of the uterus was suspected on account of the patient's age and the size of the uterus. On March 25, at Christ's Hospital, she was curetted and the scrapings, immediately examined by the aid of a freezing microtome, proved to be malignant. The abdomen was opened and the uterus removed. She rallied somewhat slowly but completely from the shock and did admirably well for forty-eight hours; at that time an enema was given to assist some purgative she had taken to move the bowels. This was followed by collapse. The next morning she had improved considerably but, the abdomen being somewhat distended, another enema was ordered. She began to fail rapidly and died the same night.

No post-mortem could be obtained, but the essayist thought that she had succumbed from heart failure dependent on fatty degeneration of that organ. He did not think that the slight force of the enema could have ruptured a healthy uninjured gut, and he was confident that the intestines had not been injured during the section.

CASE 4.—Mrs. R., aged 65, was operated on at the Good Samaritan Hospital, May 21, for a cystic tumor of the ovary, weighing 65 pounds. She died three days later of pneumonia.

Summary of the fifty-nine cases: exploration, 4; appendicitis, 4; hysterectomy for cancer, 1; hysterectomy for fibroid, 3; ovariotomy, cystic tumor, 1; ovariotomy, solid tumor, 1; cyst of broad ligament, 1; oöphorectomy, 26; dermoid tumor of the ovary, 1; ventrofixation, 2; hernia, 2; fixation of a floating kidney, 1; gall-stones, 3; evacuation of small cysts of ovary, 1; inguinal colotomy, 1.

Washington (D. C.) Medical Society.

At the recent meeting of the Medical Society, the following papers were read: Dr. Elliott, "Gunshot Wound of the Knee-Joint;" Dr. Vale, "X-Ray Diagnosis of Thoracic Aneurysm;" Dr. Boarden, "Four Cases of Appendicitis, with Specimens;" Dr. La Garde, "Remote Effects of Gunshot Wounds, by the Mauser Bullet—with Exhibition of Ten Cases;" Dr. Morgan, "Glosso Labio Laryngeal Paralysis, with Report of Case."

MALPRACTICE.

DR. W. C. WOODWARD, among things in a paper on this subject, said that from a medical standpoint it may be divided into civil malpractice and criminal malpractice. Civil is the result of ordinary ignorance or neglect; criminal, the result of intent, or of gross ignorance or neglect. The maximum of knowledge, skill, and care allowed by the law is the average knowledge, skill and care employed by physicians generally, in like cases, at the same period of time, and in the same and similar localities. Whether the facts in any given case constitute malpractice, is a question to be determined by the jury, under instructions by the presiding judge, as to the principles of law involved. For civil malpractice, the physician must answer in damages to his patient; he will not be liable unless the plaintiff shows that he has been injured by the alleged malpractice, and, after a *prima facie* case has been made out against him, the defendant may show that the treatment he adopted was proper or that the alleged injury did not result from it. If the injury complained of be due to the failure of the patient to follow the instructions of the physician, the latter will be relieved, in whole or in part, of liability. For criminal malpractice the responsible party is liable to the state for punishment by fine and imprisonment, or both, and good intent is no defense. If the physician be acquitted of a charge of criminal malpractice he may, in an action for malicious prosecution, recover damages from the responsible party, if he can show that the charge was made without probable cause, and through malice. If, in a civil proceeding, judgment is rendered in his favor, he will be relieved from liability for court charges, but whether he can maintain an action for malicious prosecution is doubtful.

Detroit Medical and Library Association.

Oct. 23, 1899.

DERMOID TUMORS IN GYNECOLOGY.

DR. F. D. SUMMERS read a paper on the above subject, and said that the most frequent seat for dermoid tumor is in the ovary, though it may be found in other parts of the body. One variety develops in parts of the body where there are no sebaceous glands, but the tumor will have a secretion like sebaceous material; another variety develops in places where sebaceous glands and hair follicles exist, and the tumor will be found to contain matted hair and sebaceous material; a third kind is made up of several varieties of tissue, and organs which resemble teeth. The simple tumors contain bone, teeth, cartilage, glands, mucous and serous membrane, nerves, portions of eyes, fingers and mammary glands. The mode of development is not understood, but these tumors are known to result from a displaced blastodermic cell. The Doctor then reported three cases of dermoid tumor in his own practice. The first was a dermoid of the left ovary in a woman 40 years of age. The pedicle of the tumor twisted on itself so that some portions of the tumor were strangulated. The tumor was found to be filled with sebaceous material, tufts of hair, and loose hair measuring ten to fifteen inches in length. The second case was one of dermoid of the left ovary in a woman only 19 years of age. The third was that of a dermoid of the ovary in a woman aged 29 years. These tumors had all been successfully removed by the Doctor.

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SATURDAY, NOVEMBER 18, 1899.

TRANSMISSION OF ACQUIRED CHARACTERS.

Archdall Reid, who appears to believe that drunkenness exalteth a nation in the long run by weeding out its degenerates, and that therefore we ought not to discourage intemperance, has been extensively discussing as a collateral subject, the possibility of inheritance of acquired characters. It seems to be essential to his argument that the parents' drunken habits should not increase the child's proneness to alcohol, so he writes at length against the possibility of the transmission of acquired characters in general. On this subject he speaks with a positiveness that ought to be based on absolute knowledge and an apparent open contempt of those who disagree with him, especially those in the medical profession, who as he says have generally admitted this possibility while the majority of biologists have held the opposite view. He says: "though the whole plant and animal kingdoms have been ransacked, no single instance of the transmission of an acquired character has yet been proved." Is he, as it seems he must be, ignorant of the testimony of Brown-Séquard, Westphal, Romanes, and others when he makes this statement? Brown-Séquard's testimony, confirmed by the observation of others, staggered even Weismann, the inventor of the assumption of germ plasm and its unmodified continuity, and he lamely endeavored to meet some of it by another and purely gratuitous assumption. Indeed, he has apparently altered his original views on this point to some extent. If Dr. Reid is ignorant of these facts, his *ex cathedra* style of statement is unbecoming, to say the least. We have, moreover, still other facts, such, for example, as the percentage of congenital absence of the foreskin in Jews, noted by Talbot and others, that meet the conditions of the transmission of acquired characters. Indeed, it may be a question whether it is a fact that the majority of biologists at the present time hold strictly and without reserve to the Weismann theory. We have seen no census of them as to this point, but we know that there is, or was very recently, a respectable number who did not. The truth is that the germ plasm theory is as unprovable as that of pangenesis, and while it may meet many of the requirements of a working hypothesis in biology, such is not the case in clinical pathology, at least so far as its attendant Weismann dogma is concerned, and the majority of physicians have good reasons for rejection of the latter from their own experience and observations. Even the broad fact that the parent who injures himself by accident, excesses, or error in living is more or less liable to transmit a damaged constitution to his offspring is against it, and when we come to the fact of neuropathic and psychopathic heredity the evidence is overwhelming. It is not necessary that the heredity should be identical, that an acquired form of insanity for example should be transmitted without change from parent to child. The transmission of an acquired neuropathic tendency sufficiently meets the conditions, and it would require a very fine metaphysical distinction, amounting to a mere quibble, to make evidence of such invalid in this question. Identical heredity is, however, common enough to serve the purpose, and it is sufficiently shown by pathologic evidence that acquired characters or defects, properly so-called, can be transmitted.

When we consider the special phase of the question raised by Dr. Reid, the possibility of transmission of alcoholic tendencies, it seems even more strange that the evidence is ignored by him. It is fortunate that in most cases the alcoholic appetite is not inherited, but this unfortunately occurs too often not to be considered as a result and not merely a coincidence. This, however, is unimportant; the main question is, "does alcoholism produce any inheritable defect?" and there is hardly any other proposition better established than this. It makes no difference whether Dr. Reid calls it a modification or a variation, the fact is a bodily vice or defect acquired by the parent is transmitted to the offspring—whether in the form of epilepsy, idiocy, or dipsomania is not a matter of importance. According to Dr. Reid's distinctions, no true modification can be inherited from male parents, and yet all these are commonly so transmitted. He would probably say that in these the hypothetical germ plasm is modified, and that therefore the defects transmitted are not acquired by the parent, in spite of the facts of daily observations by the profession. In that sense the distinction between variation and modification is a purely arbitrary one apparently made to fit the facts to the germ plasm assumption and the dictum that acquired characters are not transmitted. In the same way we might as justly say that the epilepsy, exophthalmus, and missing toes of Brown Séquard's guinea-pigs, of which Dr. Reid seems to have never heard, were inborn and not acquired, in their parents, in spite of the facts.

We have said nothing of the main thesis of Dr. Reid, that intemperance works its own cure and, therefore, should not be combated, though both his facts and his generalizations are open to dispute. It is saying considerable to say that the Southern Germans, French and Italians have had an ancestral experience of alcoholic excesses which has made them temperate, or that they are not now suffering from the evils of intemperance. Much of our literature on the pathologic aspects of alcohol certainly comes from these regions. The "for revenue only" report of the British Opium Commission, moreover, is not yet nor likely to be good medical authority. If his argument is valid, it will apply equally well to tuberculosis, syphilis, leprosy, typhoid, bubonic plague or any other pestilence; we should not interfere with them but let them work out our salvation their own way and leave the race finally immune. The consummation may be one devoutly to be desired, but it would not be altogether pleasant to count the cost.

INTERNAL BLEEDING.

It is usually with a feeling akin to helplessness that the physician looks on at a case of internal bleeding which is taking place in the brain or viscera. His text-books have recommended ergot and a host of other drugs, but their practical utility has not been demonstrated. In order to be able to control internal bleeding by other than surgical means, which in the present discussion are not applicable, at least three factors should be borne in mind. If one could increase the internal coagulability of the blood to any marked extent some good might come of this procedure. A second means which deservedly has met with little favor consists in the injection, *in situ,* of local astringents. The third method employs pharmacologic agents which can modify the circulatory apparatus. The amount of blood which could flow from a vessel is determined by the diameter of the vessel, the tension of the walls of the vessel and the pressure of the column of blood. On general grounds, it would then appear that an agent that would constrict the blood-vessels could prove of service in the control of internal bleeding. In order, however, to be of any practical value this vasoconstrictor action must involve a comparatively large area, and in order to accomplish such an action a harmful increase in the blood-pressure seems inevitable, and conversely it is also true that those means at command that decrease such blood-pressure almost invariably produce dilatation of the smaller vessels.

Along the lines of the first method indicated, that of altering the internal coagulability of the blood, recent researches are interesting and suggestive. Wright, Dastre, Beck and Nichols and many others following them, by the subcutaneous use of peptones and calcium salts and also gelatin solutions, have demonstrated that the coagulability of the blood can be markedly altered, but up to the present time practical results of sufficient width of application have not been forthcoming, though for certain lines of work their use deserves repeated trial. The second method of injection of local styptic agents has a field of restricted application, but with the newer tannin preparations and with suprarenal extracts it might readily be broadened. The influence of pharmacologic agents acting on the blood-vessels has claimed the attention of many observers but none have so carefully borne in mind in their experimentations the horns of the dilemma of vessel constriction and increased blood-pressure, as has been done by a recent worker, F. Pick[1] of the University of Prague, who has gone over the whole subject most exhaustively. The conclusions arrived at from a long series of intricate experiments are worthy of attention, especially as the number of drugs experimented with is exceptionally large.

Without attempting to summarize all the results, we may say that he finds that certain agents, like chloroform, with lowered blood-pressure, diminish the peripheral flow, while at the same time they increase that from the jugular and mesenteric veins, and others still, like barium chlorid and carbolic acid, increase the jugular flow while reducing that from the abdominal and peripheral veins. Still others present differences in the degree of action on different parts, some seem to act exclusively on the peripheral vasomotors, others on the vasomotor centers.

The practical teaching of his results is that the fact that a certain agent exercises a constringing effect on the vessels of one set of organs is not to be taken as indicating that it will be equally effectual in another part of the body, since it is evident that no one drug affects the various subdivisions of the vascular system with the same efficacy. Of the remedies applicable in cases of internal hemorrhage, ergotin proved valueless, but both hydrastinin and atropin have well-founded claims to therapeutic recognition. Still, the conclusions reached concern only the domains of the peripheral, mesenteric and jugular veins, and whether the same facts hold good for the pulmonary region, which is the field where such agents are most often desired, is still a question for research.

Formulating, as we are accustomed to do for other classes of drugs, the properties needful to entitle an agent to take rank among the hemostatics, we find that: It must either decrease the force of the heart, at the same time lowering the blood-pressure, without a concomitant vasodilation, or it must set up a degree of vasoconstriction intense enough to more than compensate for the increased outflow attending the greatly heightened blood-pressure. Whether or not it is possible to find these essentials united in a single remedy or in a combination of two or more can only be determined by further researches carried out along the same lines.

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[1] Arch. f. Exp. Path. u. Pharm., vol. xlii, 1899, p. 399; "Ueber Beeinflussung des Ausstromen den Blutmenge durch die Gefassweite andernde Mittel.

NATURAL IMMUNITY.

One of the most interesting of practical biologic questions is that of immunity, natural and acquired. Any such protection against disease as exists must be looked on as relative and not absolute, and dependent on the concurrence of a variety of factors. The knowledge on this subject is rather uncertain and inconclusive, and hypothesis has been given correspondingly free rein. Immunity has been variously thought to be due to the presence in the blood and bodily fluids of agencies, partly chemical, partly cellular, antagonistic to the invading micro-organisms or to their toxic products, but neither the phagocytic nor the alexin theory is sufficient to explain all of the phenomena. With the view of reaching a satisfactory explanation of certain obscure points, Baumgarten[1] and his pupils have for some time devoted themselves to a study of this aspect of the subject. It was found, among other things, that the same inhibitory influence was exerted on bacteria by such agents as physiologic salt solution, and other saline solutions, the salts dialyzed from blood into water, water itself, and solutions of gelatin and nutrient bouillon, as by blood-serum. This result is attributed to the change in the environments of the micro-organisms, and the necessity for adaptation to their new conditions. It was found further that blood-serum failed to affect bacteria dried on silk threads. The most important influence, however, was found to consist in a disturbance in the assimilative processes on the one hand, and of osmosis on the other. Different bacteria require different nutrient material for their satisfactory development, and some even thrive on blood-serum. This fact will suffice to explain why some bacteria fail to develop in certain media.

Another phenomenon observed in bacteria exposed to the action of blood-serum consists in contraction of the protoplasm, separation from its cell-membrane, and disintegration into small spherical segments. This process is known as plasmolysis. It could not be induced by exposure of the bacteria to the action of true enzymes. While not directly destructive to the bacteria, plasmolysis is believed to be an important factor in the inhibition of their activity and vitality. Bacteria that have undergone this change are probably exceedingly susceptible to all external influence, such as change of medium, sudden alteration in temperature, etc. Too sudden disappearance of plasmolysis, further, has an injurious effect on the bacteria, which then fail to develop; even rupture may take place. Such influences, it is conceived, must be operative when the bacteria are transferred from serum in which they have undergone plasmolysis to liquefied gelatin, or to hot viscid agar. It was found that plasmolysis disappeared more quickly under favorable nutritive conditions than with a deficiency of nutrient material. Doubt is expressed that natural immunity is dependent on the presence in the blood of bactericidal substances, as it is difficult to believe that such substances, if they exert any chemical action, are without injurious effect on the bodily organism. Bactericidal poisons are also protoplasmic poisons. Natural immunity is thought to depend on failure on the part of the bacteria to find in the immune body a suitable culture-medium, that is, the chemical conditions necessary for their existence and development.

VIRCHOW'S SEVENTY-EIGHTH BIRTHDAY.

The entire medical profession will join in the congratulations recently extended by the Medical Club of Berlin to Virchow on the occasion of his 78th birthday, and sustain the hope that the activity and the vigor of this distinguished investigator and scientist may long be preserved. Virchow has occupied a professional chair for fifty years.

SURGEONS APPRECIATED.

As has been noted in our news columns, three of the best surgeons in England have been engaged as consulting surgeons to accompany the troops to South Africa. These are Sir William MacCormac, Mr. Frederick Treves and Mr. G. Makins. These names need only to be mentioned, as the reputation of the men as leaders among surgeons is world-wide. Each will act independently, and, according to the *British Medical Journal,* will have the services of a military secretary selected from the surgeons on the spot. The financial reward for the services offered is to be liberal, the payment to each to be at the rate of £5000—$25,000—a year, with allowance for horse, etc. It is certainly an encouraging outlook, when a government appreciates the value of the services of the leading men in medicine, and rewards them accordingly.

DIAGNOSIS OF MALARIAL AND TYPHOID FEVERS.

It might be somewhat epigrammatically stated that the diagnosis of malarial fever and of typhoid fever, both direct and differential, should be ordinarily possible by means of the microscope and the temperature-chart, controlled by a little cerebral cortex. In a particularly interesting and valuable address delivered at the meeting of the New York State Medical Association, held recently in New York City, Dr. Wm. Osler[1] pointed out that any continued fever in the northern and middle United States is almost certainly not malarial, as in those regions the form of malarial fever that occurs is almost exclusively of quotidian, tertian, and quartan intermittency, and the hematozoa are easily recognizable, while the attacks are readily curable by the administration of quinin; while in doubtful cases of typhoid fever the results of examination of the blood and of the urine for the Widal and the diazo reactions should go far to establish the diagnosis.

TYPHOID FEVER AND DRINKING WATER.

The statement made at the recent meeting of the New

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[1] Berliner Klin. Woch., October 9, p. 893.

[1] Journal, November 4, p. 1165.

York State Medical Association, both by a bacteriologist and a clinician, that the water-supply of New York City is free from typhoid bacilli, and that most cases of typhoid fever seen in that city are imported from without, or are derived through contaminated milk, vegetables, oysters, etc., is noteworthy from the fact that water is conceded to be the most common medium for the conveyance of the disease, and no little credit is due to those by whom the fortunate result mentioned has been brought about. The lesson should further not be lost on others, but should stimulate all communities to secure a small, pure supply of water for its inhabitants, and to keep it so. It is however, only by unremitting watchfulness and control that such a result can be attained. A very considerable experience has shown that this end can be best, most securely, and most economically attained by filtration, although it is a fact that the water-supply of New York City is not filtered, but herein resides the possible danger always present under such conditions of accidental contamination, minimal though this may appear.

THE IMMORALITY OF "CHRISTIAN SCIENCE."

"Fools rush in where angels fear to tread."

Knowing nothing of disease, and virtually denying its existence, it should scarcely occasion surprise that the self-styled "Christian Scientist" should boastfully proclaim his ability to cure the sick and heal the maimed. So deluded have some of the disciples of the cult become, that they are permitting their zeal to carry them beyond the bounds of possibility. With their beliefs we have nothing to do, but when they promulgate the hope, as did a public speaker recently in Philadelphia, that "cancer, consumption, Bright's disease, blindness, typhoid fever, curvature of the spine, locomotor ataxia, valvular disease of the heart, and the alcohol and drug habits" can be cured by "Christian Science," tolerance is exhausted, and steps should be taken to restrain the rabid utterances and the irrational practices of such ignorant and irresponsible persons. Liberty is one thing, and license another, and the crime of even suggesting such obviously false doctrines and immoral practices should be prevented by severe punishment. Those who speak thus should know better, or their ignorance is criminal. Human life must still be considered as too serious and too valuable to be thus lightly dealt with.

TONSILS AS PORTALS OF ENTRY OF TUBERCLE BACILLI.

In our day the questions relating to the mode of spreading and the routes of infection of tuberculosis are discussed as eagerly as questions in the therapy of this disease. It is an accepted fact that the infection occurs most frequently through the inspired air, the primary lodgment taking place on or in the bronchial mucous membrane. Before the inspired bacilli reach the bronchi and the lungs they may, however, be arrested in a number of places, such as the mucous membrane of the nose, the pharyngeal and faucial tonsils, etc. Recently v. Scheibner[1] examined a large series of faucial tonsils to see in what percentage a primary tuberculosis occurred. The result shows that in sixty tonsils examined histologically, with great care and detail, there were four cases of primary tuberculosis, of which three are regarded as due to aspiration and one to introduction of bacilli by way of food; in other words, in 5 per cent. of the tonsils examined there existed a primary aspiration tuberculosis. From this and other studies it may be inferred that primary tuberculosis of the tonsils is relatively infrequent, but it is probably true that the observations are as yet too few to settle the question.

A LOCAL AND A NATIONAL REPROACH.

The fact that one sinner can destroy much good was well illustrated a few years ago by the discredit of Philadelphia medical diplomas on account of the Buchanan diploma-mill. A similar experience seems now likely to fall to Chicago through the disreputable "Independent Medical College," and its predecessors and successors. It appears, according to the *Times of India,* quoted by a correspondent in the *Indian Medical Record,* that one "Professor" Van Noppen, a coadjutor of the notorious Armstrong and others in this fraudulent concern, has traveled far and wide in India, "leaving a trail of diplomas behind him," and Bombay, Calcutta, Allahabad and other Indian cities can each rejoice in the possession of a coterie of "Chicago graduates." The *Times of India* calls the Indian Government's attention to some official appointees in the plague districts, especially to one or more who append the "M.D. (Chicago)" to their names, and suggests an inquiry. It says: "In view of the discredit which has been cast upon Chicago degrees in general, it would be reassuring to the public if it were officially stated that a diploma which has received implied approval in the pages of a Government publication was bestowed by a duly qualified examining body." The law enacted by the last legislature affecting these diploma-mills was passed none too soon. Their existence was not only a reproach to Chicago and the nation at large, but has been an actual damage to its respectable medical institutions.

ACUTE PARALYTIC DILATATION OF STOMACH.

Acute dilatation of the stomach is not a common condition, and the possibility of its confusion with cystic disease of some abdominal viscus must be considered as remote, but that this is real is illustrated by a case under the care of Mr. W. H. Brown, at the Leeds General Infirmary[1]. The patient, a man 55 years old, was in a state of collapse, and the abdomen was distended, with dulness on percussion between the umbilicus and the pubes. There was great abdominal pain, and bloody urine was evacuated from the bladder by catheterization. Exploratory puncture of the swelling gave exit to thick, greenish fluid, with a peculiar odor suggestive of the contents of a pancreatic cyst. A definite diagnosis could not be reached, but as the patient seemed certain to die if unrelieved, and as the symptoms seemed due to pressure induced by the fluctuating swelling, it was decided to open the abdomen. Even after this was done and three pints of fluid were evacuated, the condition was still believed to be one of pancreatic cyst. The patient, however, failed to rally, and post-mortem examination showed the apparent cyst to be the dilated stomach, free from obstruction at the pylorus. It will thus be necessary in future in the diagnosis of obscure cystic conditions within the abdomen to bear in mind the possibility of the presence of acute paralytic dilation of the stomach.

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[1] Ziegler's Beiträge, 1899, xxvi, 511.

[1] Lancet, October 14, p. 1017.

NEW YORK CANCER STATISTICS.

Ever since the publication of Professor Roswell Park's statement and prediction in regard to the alarming increase in cancer, the mortality statistics of the disease have been watched with unusual interest by the profession. A number of months ago a report of the number of deaths from cancer recorded in New York City during the first quarter of the present year, as compared with the three months ending Sept. 30, 1898, was published in the Journal. These figures showed that there had been both a relative decrease, taking into consideration the increase in population, and also a positive decrease in the actual number of deaths. In the first quarter of 1899 the deaths from cancer were in the proportion of 1 to 7058 of the population, while in the quarter of 1898 referred to, the proportion was 1 to 6730. The mortality reports for the third quarter of the year, now available, show, on the other hand, that as compared with the corresponding period of 1898, there has been some increase in the deaths from cancer, although this is comparatively slight. During the thirteen months ending September 30, there were 541 deaths recorded from this disease, or a monthly average of 41+ as against 511, or a monthly average of 39+. When, however, the increase in the population, as officially given by the Bureau of Vital Statistics, is considered, the difference is seen to be very small, namely, 1 death to 6562 of the population, against 1 to 6730. In the first quarter of 1899, as already stated, the proportion was 1 to 7058; so when the records of the entire year come to be made up, it seems altogether probable that they will show that there has been no increase in the deaths from cancer in New York City, and very possibly a slight falling off in the mortality from the disease.

ANOTHER DOCTOR IN LITERATURE.

Dr Charles W. Doyle is a new medical light in the literary firmament. He was born in India, received his medical education in London and Edinburgh, and is now practicing medicine for his health and writing stories for a living, in California. Born in 1852, among the foothills of the Himalayas, the time and the place made it necessary that his early life should be surrounded by the horrors of, or as he expresses it, "getting impressions" from, the Sepoy rebellion, and life in the jungle. His father was killed in one of the last battles of the great mutiny. At 18 years of age he was sent to London to study medicine, and spent nearly a year, a "terrible year," he calls it, in Guy's Hospital. He was so wretchedly unhappy there, cooped up in an atmosphere, social and otherwise, so different from that to which he had been accustomed, that when his quarterly allowance came, he used it to buy his passage back to India and to his jungle home. After a little while he was again sent back to Great Britain to complete his medical education, but his antipathy to London was so great that he was allowed to go to Aberdeen, Scotland, where he obtained his medical degree in 1875. He practiced in England for thirteen years, and then, on account of his health, came to the United States, settled in California, and is now living at Santa Cruz, in that state. His reputation has been obtained from his book, published under the Kipling-sounding title, "The Taming of the Jungle." This is made up of stories in which there is a mixture of the "blood and thunder" and the "naughty," that has caught the fancy of the populace of the day. His description of the jungle is vivid and fascinating, and his portrayal of East Indian life such as to make one almost see the country and the people. Another volume from his pen, entitled "The Shadow of Quong Lung,"[1] has just appeared. It is a story of Chinese life in San Francisco, and is as full of murders and villainy as is his first book. It tells of the Highbinders, and of the criminal side of the Chinese in the City of the Golden Gate. Whether our author will ever gain the reputation of the other doctor of the same name, Conan Doyle, is doubtful, although the literature he is giving us is of the kind that seems to be popular.

REPEATERS.

A few medical writers are victims of a reprehensible habit that is not pleasant to contemplate, viz.: the habit of reading the same paper before two or more different societies. When discovered by the profession, as they all are sooner or later, a variety of reasons for their actions occurs to their critics. It is frequently said of them that, being unable to write with ease, they must make one production go as far as possible. This is the most charitable view, even though it involves the inference that only the vain desire for personal advertisement could lead them to risk the affront to an audience that should discover it was being served cold victuals instead of the expected warm sustenance. No doubt these writers never stop to consider the magnificent proportions of a vanity that leads an author to think his own production is worthy of repeated self-production. Of many it is said that they are too indolent to write more than one paper at long intervals, and at the same time too desirous of notoriety to refuse an invitation to read a paper before a society, even though they risk offending their audiences by presenting stale matter. The implied affront to the second and subsequent audiences seems to be entirely overlooked by these gentlemen. Perhaps this is a matter of minor importance, but it is certain that some medical writers would occupy a much more dignified position before their fellows did they not have so high an opinion of their own productions. It is a very different affair when a society requests an author to repeat a paper before a different audience from that which first heard it. That is a high compliment to the author, and it is perfectly proper to reread one under such circumstances. For those who are not thus importuned, the far better course is to refuse all invitations that can not be accepted with an entirely original and new article. Medical editors would rejoice at the accomplishment of this little reform, medical authors would not so often be charged with reading papers for mere self-advertisement, and medical science could hold its head just a little higher before the world of science and letters.

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[1] J. B. Lippincott Company.

CASE OF TYPHUS FEVER AT PHILADELPHIA.

A case of typhus fever recently eluded the scrutiny of the Federal and the state quarantine officers[1] at Philadelphia, under circumstances that will bear recital. A Russian, who embarked from the steamer *Aragonia* at Antwerp was seized, when seven days out, with fever, headache, and malaise, not reporting to the ship's surgeon for two days. It is not known that typhus fever existed at Antwerp, although it is said that the patient came from a district in Russia where the disease was epidemic. As stated, the man was examined by a surgeon of the United States Marine-Hospital Service, and by the assistant quarantine physician of the port of Philadelphia, and, with another man, who appeared ill, was thought to be suffering from typhoid fever, and he was accordingly sent to the Philadelphia Hospital. Here a diagnosis of typhus fever was made, and the patient transferred to the Municipal Hospital, where he died after two days, the post-mortem examination disclosing lesions which accorded with the diagnosis. The second patient recovered, but his blood yielded the Widal reaction on each of several occasions. The passengers from the steamer had been permitted to depart for their several destinations, but they were followed as far as possible, and it is not known that any other case has broken out among them. Typhus fever is so rarely seen at American ports that the failure to recognize it in an isolated and not well marked case is, perhaps, not altogether an unpardonable error; but in medicine one must always be prepared for the unexpected, and those to whom is entrusted the safeguarding of our doors against the invasion of infectious disease should be ever on the alert, and if error arise it should rather be on the side of safety. The public may think it a hardship to be at times subjected to the rigors and inconveniences of quarantine, when perhaps this may appear an unnecessary precaution, but they must realize that such a step may often be required merely for the better protection of the many.

Medical News.

Yellow fever is dying out. Key West reports two new cases and no deaths, Miami no new cases and no deaths, November 9.

Professors William Osler and Howard Kelly of Baltimore were last month elected honorary members of the Royal Academy of Medicine of Ireland.

Rush Medical College, Chicago, is considering the establishment of a monthly journal for publication of scientific work done in the College.

England sends three hospital ships to Newfoundland for the deep sea fishermen, and France now has two which go to Iceland and Newfoundland.

Sir Thomas Lipton has announced his willingness to equip the *Erin* as a hospital ship and place her at the disposal of the British Government, to proceed to the Transvaal.

It is announced that surgeons at the New York Polyclinic recently extracted a brass bullet from the leg of a soldier just returned from the Philippines. The bullet had become encysted.

At the regular meeting of the Board of Trustees of the Cincinnati Hospital, November 6, Dr. J. W. Murphy was elected otologist and larynologist in place of Dr. Max Thorner, deceased.

Dr. Arthur C. Duffy of Ireland, son of the president of the Royal College of Physicians and Surgeons, is now in this country for the purpose of making a study of cancer and tuberculosis.

The first public sanatorium for nervous diseases in Germany has been opened at Zehlendorf, near Berlin, exclusively for the benefit of curable patients, at a minimal expense. Dr. Max Laehr is in charge.

Dr. H. G. Barrie, Trinity, '99, college secretary of the Young Men's Christian Association, has been sent by the Dominion Government with the Canadian contingent to South Africa.

The recent congresses of surgery, internal medicine and urology in France adjourned not to meet again until 1901, omitting their annual congress next year on account of the International Medical Congress at Paris.

Dr. Alonzo E. Taylor, assistant director of the Pepper Laboratory of the University of Pennsylvania, has been appointed professor of pathology in the Medical College of the University of California. He succeeds Dr. John C. Spencer, resigned.

A central organ for communications in respect to the prevention of tuberculosis and sanatoria is announced to commence publication with the coming year. The editors are to be E. v. Leyden, K. Gerhardt and B. Fraenkel. Publisher: J. A. Barth, Leipsic.

The Provincial Board of Health of Ontario has dispatched Dr. Hodgetts of Toronto to Windsor and the vicinity of Belle River, where is it reported that there are a dozen cases of smallpox. He will have full authority from the Board to deal with the outbreak.

The crusade in Pennsylvania against those who sell oleomargarin without a proper label is still being prosecuted. Many violators of the law have been apprehended and a considerable sum of money will in consequence be diverted toward the state treasury.

According to the press, Mary Loftus of Brooklyn is the eighth person known to have been infected with smallpox through the medium of handbills given out by a colored employee of a dental establishment of that city, who himself subsequently developed the disease.

Dr. Waldo W. Hull, Williamsport, Pa., has been appointed major-surgeon in the Twelfth Regiment National Guard of Pennsylvania, to succeed Major Focht of Lewisburg, resigned. Dr. Hull was recording officer at the First Division Hospital of the Second Army Corps during the recent war with Spain.

Major George E. Bushnell, assistant surgeon-general on the staff of Surgeon-General Sternberg, has, it is said, designed a new army medical chest for use in the Philippines. It is specially designed for those who go on short expeditions and garrison duty in out-of-the-way places.

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[1] Journal, October 21, p. 1051; November 4, p. 1180.

Mrs. Julia Brown, formerly of St. Paul, Minn., now of Atlantic City, N. J., has given $5000 to the Atlantic City Hospital.

Health Officer Gibbes of Detroit, Mich., November 11 visited those districts near Windsor, Ont., where several cases of smallpox are reported. He says that the disease has not attacked any but non-vaccinated people.

Queen Victoria, with great pomp and ceremony, opened the Convalescent Home of Clifton, November 15. It is intended as an adjunct to the Bristol Royal Hospital, and cost £100,000—about $500,000—which was privately donated.

Dr. Camara Pestana, a well-known bacteriologist, who has recently been devoting his time to the study of the plague, died in Lisbon, November 15. According to the cable, he contracted the disease from dissection of the body of a victim at Oporto.

A well-dressed young woman was found asleep on a street in Paris one night in October, and was taken to the station and then to the hospital, where she is still sleeping, with heart beats normal—evidently a case of prolonged lethargy. The *Gaz. Med.* adds that no trace as to her identity has yet been discovered.

The Board of Education of Chicago, at its meeting this week, adopted the plan for the examination of school children (see Journal, p. 1232), with a slight amendment. This provides for the appointment of fifty physicians who will receive $50 per month during the time that they are employed, which is presumably for the school year.

The index of literature in the *Medical Review of Reviews,* New York City, has been elaborated on, all the articles it notes classified. It is a great improvement, and will aid the student and investigator to keep up with the literature on any subject in which he may be interested. It covers the field well, over 900 subjects being mentioned in the last number.

Dr. Kuettner of Tuebingen has been appointed chief of the German Red Cross expedition soon to start for the seat of war in South Africa. A similar expedition is being organized in Holland, by Dr. Korteweg. Dr. Kuettner was with a Red Cross expedition during the Greco-Turkish War, in company with Professor Nasse, since deceased.

A recent issue of the *St. Louis Republic* contained a well-written account of a visit to, and the life of, Dr. Alonzo Garcelon, chairman of the Board of Trustees of the American Medical Association, and one of the old wheel-horses of the Association. The writer of the article is Dr. I. N. Love. A photograph of the ex-governor and his grandchildren embellishes the page.

We learn that the *Maryland Medical Journal* is to be changed from a weekly into a monthly publication. At the last meeting of the Trustees, Dr. John S. Fulton, secretary of the State Board of Health, and formerly editor of the *Bulletin of Johns Hopkins Hospital,* was elected editor, vice Dr. W. Buckingham Canfield, resigned. The first number of this journal was issued as a monthly—May 1, 1877.

The memorial erected to young Dr. Mueller, the victim of the laboratory plague at Vienna last year, consists of a bronze bust on a marble pedestal, with relief representing Marcus Curtius, the Roman hero. It is erected in the eighth court of the General Hospital, near Nothnagel's clinic, in which he was an assistant. A memorial to Bamberger was also recently unveiled in the arcades of the University.

There are two Canadian doctors in the Transvaal at the present time, attracting some little notice. Dr. F. H. Brennan has all along been an active agitator for reform in Johannesburg, and is now a refugee in Natal, serving with the British forces. Dr. Gillespie has recently been appointed President Kruger's private physician, and it is stated that he attends strictly to business. The former is an Irish Catholic; the latter a Protestant.

In Wisconsin the State Board of Control has adopted a resolution condemning the practice said to be prevalent in about fifteen counties in the state, of letting the medical care of the insane in the county insane asylums by contract to the lowest bidder. It is believed that this is the beginning of a crusade against this practice, by which any man having a physician's diploma can secure the work of caring for the county insane by bidding low enough for it.

Sweden has been very active in her efforts to stop the spread of tuberculosis in that country and offered prizes for the best and second best essays on "Tuberculosis, Its Prevention and Cure." The first was awarded to Dr. E. Nilsson of the Swedish army, and the second to a civilian physician, Dr. R. A. von Post. To put these essays to practical use King Oscar has now ordered that a first edition of 200,000 copies of the Nilsson pamphlet be printed, and 20,000 of von Post's. These will be distributed free to all local boards of health in the Kingdom, also to every parish, province, extra province and state physician.

The annual ball of the internes of the various hospitals of Paris and the medical students, was even more "picturesque" this year than usual. In the procession the hospital Enfants Malades was represented by a band of infants five and six feet tall; the Lourcine, by a group from the Revolution bearing the guillotine and the decapitated body of the king; St. Antoine, by a dream of fair women; the medical press, by the belle of the Quartier Latin decked with specimens of the different 216 local medical journals; Bicêtre, by a negress in the "costume de Rarahu," borne on the shoulders of a stalwart youth; Lariboisière, by a Prometheus with the vulture preying on his vitals; etc.

An interesting question has arisen from a recent conviction for bribing an employee of the U. S. Government, in Philadelphia. One of the grounds on which a new trial has been asked is that one of the jurors was insane. A sworn statement has been issued by a resident physician in Mount Hope Retreat, Baltimore, to the effect that one of the jurors in the case had been admitted to that institution no less than five or six times within the past ten years, and at times suffered from maniacal excitement and auditory delusions and hallucinations. Since the trial ended the juror has suffered from a physical breakdown. The exact condition of the man at the time of the trial may be a nice point in the law.

Mme. Riva Monti, an Italian medical woman, has been appointed to the chair of comparative anatomy at the University of Pavia. Her works on this specialty are numerous and one obtained the prize of $600 offered by the Lombard Institute, according to the *Jour. de Med de Paris,* October 22. Another Italian, Mlle. Bonsignoria, has received permission from the Paris University to open an official free course in ophthalmology, and has been appointed oculist to the normal schools at Sevres and Fontenay. In Australia the argument advanced by the opponents of the measure to appoint women physicians in the hospitals was that at certain physiologic periods women are a source of danger to surgical diseases.

THE MEDICAL department of the British Army in South Africa is supplied with ten sets of Roentgen ray apparatus, to be used both in hospitals and on the field. Each set is thoroughly complete and up to date, and contains six focus tubes, a ten-inch field service induction coil, with condenser and commutator; two pairs of conducting cords and four ebonite pillars packed in teak cases; two lithanode portable batteries, with six cells of 30-ampére hours; one fluorescent screen with cryptoscope, a voltmeter, a stand for X-ray tubes, spare wires, a portable cross frame localizer with stand and accessories, a stretcher with tube-holder and plate-holder; nine dozen Edwards' cathodal xxx plates of various sizes, material and apparatus for developing; printing paper and printing frames, and black and ruby fabric.

PRINCE GEORGE of Greece has summoned Dr. E. Ehlers of Denmark to Crete to discuss measures to arrest the spread of leprosy, as there are already between two and three thousand lepers on the island. Dr. O. Cahnheim is to accompany him. The Government of Colombia also invited Dr. A. Hansen to come to Colombia for the same purpose, but his price was so high—$4000, and the same amount to be paid additionally to his family in case anything serious happened to him on the trip—that the National Academy of Medicine protested against this expenditure, considering the impoverished condition of the treasury, and that Dr. Hansen's views in regard to the necessity of strict isolation were well known and could be carried out without him.

THE ITALIANS have shown remarkable enterprise in reconstructing the exposition buildings at Como, destroyed by fire a few months ago. They were replaced on a still more imposing scale and the National Congress of Hygiene and the International Congress of Electro-Biology and Electro-Therapeutics have recently been held there, with a large attendance. The speakers were mostly Italians, which was to be expected in the land of Volta. The review of what electricity has accomplished in biology and therapeutics proved a surprise even to those who thought themselves most familiar with it. Among the most interesting communications were Colombo's new monodic voltaic current, and electric massage, and Sgobbo's demonstration that electricity properly applied increases muscular strength, and that this increase in strength is permanent.

SUES FOR LIBEL.—Dr. Thomas J. Hillis of New York, at the recent meeting of the New York State Medical Association read a paper on "Alcohol as a General Stimulant and Heart Tonic; Its Use to the Animal Economy in Health and Disease." (See JOURNAL, November 11, p. 1233). Some expressions contained in this paper have been utilized by certain advertising whisky firms to their advantage. One advertiser quotes him as saying: "Alcohol is a form of food already digested," without the modifying clause following it, which puts on an entirely different meaning. Dr. Hillis claims to have said: "Alcohol is a form of food already digested, but is not adapted to the normal wants of the body and can not be used at a time and under conditions which render the digestion and assimilation of other nutritious substances impossible." On account of these misrepresentations and alleged unlawful using of his name, Dr. Hillis has brought suit in the New York Supreme Court for libel against these firms and advertisers of whisky, and asks for $10,000 damages.

FOOD ADULTERATION.—On November 11 the Senate Committee on Manufactures, consisting of Senator William E. Mason of Illinois, Senator Wetmore of Rhode Island, and Senator Harris of Kansas, met in New York City for its investigation of food adulteration, pursuant to a special resolution in the United States Senate. Readers of the JOURNAL are already fully informed concerning the labors of this Committee in Chicago and Washington. It is not improbable, from what Senator Mason says, that the outcome of the committee's report to the Senate will be the introduction of a bill prohibiting adulterations detrimental to health, and compelling harmless adulterations to be regulated by the Government, and marked so as to indicate their true nature. The first subject to occupy the attention of the committee is the adulteration of beer, ale and porter.

THE ANNUAL report of Surgeon-General Sternberg gives a statement of the health of the troops, the casualties and losses in battle and in hospital, the aid extended to the sick and wounded and other information of medical interest. The total number of deaths in our armies, including regulars and volunteers, from May 1, 1898, to June 30, 1899, was 6619: 496 men were killed in battle, 216 by accident, 202 died of gunshot wounds and wounds received in action, 2774 from typhoid fever, 476 from malarial fever, 359 from pneumonia, 342 from diarrhea and dysentery, and 185 from yellow fever. As to food supplies, General Sternberg says he considers it wise to go slow in changing the army ration until experience has shown just what changes are desirable. He refers to the agitation over canned roast beef and refrigerated beef, and says that at that time there were on file only two complaints as to the beef supply. The only criticism made by medical officers, he says, is that the ration for the tropics should have less fat and more starch and sugar. An increase of the medical corps is recommended as follows:

> The medical corps of the army, which was scarcely adequate before the War with Spain for our army of 25,000 men, is now entirely inadequate, and should be increased as soon as is practicable. Many of the commissioned medical officers of the volunteer army, and of the acting assistant surgeons, have made rapid progress in acquiring a knowledge of their military duties and have demonstrated their fitness for the military service. In filling vacancies in the medical corps these gentlemen should, in my opinion, have the preference when they come within the established age limit.

The report also recommends the establishment of camping grounds through the country, ready for the reception of troops when mobilized.

CALMETTE'S Paris address on the plague at Oporto attracted a large audience, and his conclusions, indorsed by the International Committee, were hailed with great satisfaction. He asserted that obligatory preventive inoculations of persons residing in the vicinity of an infected house, with general disinfecting measures and isolation, would unfailingly stamp out an epidemic of the plague before it got any headway, while disinfection of clothing and luggage and the presentation of a certificate showing inoculation within fifteen days would be all the quarantine measures needed; inoculations to be repeated in two weeks. He spent most of his time from 9 p.m. to 2 a.m. in the cemeteries, making autopsies of plague victims, and his days caring for the sick and experimenting with animals. He described the infected quarter as "densely crowded, with narrow, dark, unsewered staircase streets, pets, pigs and poultry frequently occupying the same room with the family or families."

NOT "ROBBED OF SIGHT BY A DOCTOR."—On November 1 the *Chicago Tribune*, and other papers we presume, printed a sensational telegram from Philadelphia which was such a slander on the medical profession that we asked our correspondent in that city to investigate. One paper had big "scare heads" beginning "Robbed of Sight by a Doctor;" another, "Eyesight Destroyed by a Doctor," etc. The item stated that J. H. Askin, who at one time was a financial power in Philadelphia, was now blind and an inmate of the Masonic Home on North Broad Street. According to his story, as told by the newspapers, his eyes were troubling him and his family physician was treating them unsuccessfully, when he called in the aid of another physician. Under the latter's care he at first improved, when occurred an unaccountable change for the worse and the sight was finally lost. Years after he had lost his sight, he says, the physician last chosen came to him and cleared away the mystery. On his death-bed, his old family physician had confessed that he had, by tampering with his medicine, caused his set-back and final result. He did it because he was jealous of the other's success. Our correspondent writes us that he made an investigation into the case and found that there was an aged man by the name of J. H. Askin living at the Masonic Home. On inquiry at the institution, the matron stated that no one believed that story because it is the opinion that his mind is affected. It was further learned that the reporter who wrote the sensational article called while the matron was not in the building, and she knew nothing of the matter until reading the article in the newspaper. If all such were utilized for reportorial purposes, there are, perhaps, few who would escape libel.

Correspondence.

"Morphinism Among Physicians."

HARTFORD, CONN., Nov. 11, 1899.

To the Editor: A paper read recently before the New York State Medical Association on "Morphinism Among Physicians" (see JOURNAL, November 4, pp. 1165 and 1173), has created unusual interest, and brought me a very large correspondence relating to it. A number of critics have asserted, with hysterical dogmatism, that the statement that from 6 to 10 per cent. of all physicians used drugs and opium was gross exaggeration and untrue. An equal number of persons are confident that this is a minimum estimate, especially in certain sections of the country. In other localities it may seem unsupported by observation. In an eastern city of over five hundred physicians, over 20 per cent. used spirits and opium to excess, and yet a prominent physician in a newspaper interview asserted that not 2 per cent. were spirit or drug takers. While the study of 3244 physicians from which these conclusions were drawn may not be sufficient for positive data, yet these conclusions are supported by the experience and opinions of men who are in a position to know something of the prevalence of morphinism and other drug taking. A great many physicians have a limited personal acquaintance with the profession at large, and are not in a position to know very clearly the habits of their neighbors. The drug-taker is always secretive, and often his intimate friends are ignorant of his addiction, and only when chronic stages are reached is it suspected. While it is a sad fact that any number of educated physicians should suffer from drug disease, it is stupid to deny and assert that conclusions from the study of a certain number of cases are exaggerations. It is possible that in certain localities the figures may not be confirmed, and it is always possible that a variable per cent. of drug-taking physicians are concealed in every community. At all events, whatever the actual per cent. may be, the topic is an especially personal one to each physician. Here, as elsewhere, knowledge of the danger may aid in prevention, and realization of its presence will stimulate to greater efforts for escape. My remark in the paper read, "that there was no specific cure," has been turned to say that "there is no cure." This is an error. There are constantly a large number of physicians in the various asylums and homes of the country who are treated successfully for this drug-addiction. Morphinism is a disease, and is curable, but only along lines of rational, scientific medicine. Morphinism among physicians is a peril that can not be treated lightly, and can not be disguised or put aside by denials. We should recognize these unfortunates and turn all our energies to save them before they become incurable and lost forever.

Yours very truly,

T. D. CROTHERS, M.D.

Foreigner's Status in Japan.*

NEW YORK CITY, Nov. 11, 1899.

To the Editor: This is what a foreign physician must expect to find in Japan. The Japanese themselves, in 1879, dismissed all their foreign tutors, feeling perfectly assured in their Asiatic stupidity, that they new everything worth knowing in the medical lore of "degenerate Europe" and America, and will never recur to the services of foreigners. The only chance for a foreign physician to practice his profession in Japan would be in "foreign ports," Yohohoma, for instance, where there are some 3000 foreigners, including their families, mostly English. There are more English—Americans and British—than Germans, everywhere in Japan. The medical field of Yokohama has been most ably filled by Americans for many years, by Dr. Eldridge, who is there now, and before him,' for twenty odd years, by the lamented Dr. Simmons. You see that the only chance for foreigners in Japan would be in some other foreign settlement. My practice was in Tokio, where many Americans were employed by the Japanese Government; General Williams of Indiana, the chief adviser of the Treasury Department; General Le Gendre, formerly U. S. Consul at Amoy, chief adviser to the State Department; Dr. Hepburn of California, of dictionary fame; Dr. Antisell, Dr. Rice, Dr. Whitney, etc. In fact, Americans had nearly all the "plum trees shaken" for them in those days. Germany had only the University medical chairs. Most of the pioneer work of opening up medical Japan to Westerners was done by Americans: Dr. Wallace Taylor, Dr. Schmidt, and a host of others, too modest even to seize the ear of a globe-trotter.

From the American Commodore Perry's time, 1854, down to 1879, there have been more American doctors in the foreign service of Japan than Germans. The foreign medical element there to-day is a very small element. There are, of course, some missionary doctors in the various cities, Tokio, Nagasaki, Kioto, Kobe, etc. These are poorly paid by their churches and expect a revenue from the foreign lay element. As I have said, such a revenue can only be a small one.

While I was in Japan it was French officers, and not German, who drilled, and had always drilled, the Japanese soldiers. Before the French officers' time there were no Japanese soldiers. Since the war with China the self-reliance of the Japanese and their feeling of independence of the foreigner, mixed with a congenital contempt and dislike for the foreigner, has increased. If the Japanese had been permitted by Russia, France and Germany to get all they wanted from China the foreigner would have been nowhere. Through the interference of the foreigner they were foiled in a considerable measure, therefore so much worse is it for the foreigner residing in Japan. What makes the situation much worse is that the Governments of the United States, England and Germany have in a fit of ignorant stupidity delivered over their citizens to the mercy of Japanese laws.

I have said enough to put your reader in a condition to judge himself whether it will be for his own advantage ever to go to Japan.

It is said that there has been a great improvement in Japan

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*See "Medicine in the Far East," JOURNAL, November 11, p. 1238.

"since I left it;" that is, since all foreigners left it. I am glad to hear that Japan has improved so much. I hope even that the streets are asphalted, or even paved, and that underground drainage is not neglected. Are they still drinking in the Capital the old wooden well water? Do they stick to the venerable urinal on the street corner? Are there chimneys on the houses? You know that these things go to make a civilized city. Asphalt, if flushed, not swept, prevented in some degree consumption. Cholera and typhoid fever have both a horror of pure water. Underground drainage prevents contamination of wells by cholera and dysentery germs. Chimneys do away with the necessity of charcoal fuel, the cause of beriberi, or carbonic acid gas poisoning, and are the first apparent characters which separate a house from a hut.

Albert S. Ashmead, M.D.

New York City.

Dr. Morris Manges has been elected professor of diseases of the chest and general medicine, in the New York Polyclinic, to succeed the late Dr. R. C. M. Page. Dr. Manges is a graduate of the College of Physicians and Surgeons, and has for some time past been connected with the Polyclinic.

In his annual report to the trustees, President Seth Low of Columbia University stated that the interest charges on the debt of the College of Physicians and Surgeons is now approximately $3500.

At the annual meeting of the Trustees of the University of the City of New York, November 6, Chancellor Henry M. MacCracken, stated, in his report, that the gifts to the University during the past year were a third of a million dollars in value, and that among them was a finely equipped hall for the Young Men's Christian Association in the east wing of the University and Bellevue Hospital Medical College.

The report of the secretary of St. John's Guild refers to the building of a new floating hospital, the gift of Mrs. Augustus Juillard, and of a commodious four-story addition to the Seaside Hospital at New Dorp, Staten Island, during the past year, which increased facilities have enabled the Guild to carry on a larger amount of charitable medical work during the past summer than ever before: 62,672 women and children were taken on the floating hospital excursions and 3799 patients treated.

The number of children in the New York Institution for the Blind, at the end of the fiscal year just closed, was 169, a decrease from the previous year.

The trustees of the New York Eye and Ear Infirmary have decided to erect a pavilion for contagious eye diseases on property adjoining the infirmary.

Five women nurses, in charge of Miss M. E. Hibbard, sail from New York on the *Mesaba* of the Atlantic Transport Line, bound for England, and for the British hospital-ship *Maine* now being fitted out by American women for service in South Africa.

OPERATION ON BROKEN BACK.

The good results obtained at the Roosevelt Hospital in the recent case of Walter Duryea have stimulated other surgeons to emulate that brilliant example. On November 4, a similar operation was performed at St. John's Hospital, Brooklyn, on a telephone lineman, who had fallen from a telephone pole and fractured the spine. It is reported that the operation consisted in removing portions of the eighth, ninth and tenth dorsal vertebræ. The patient rallied well from the operation, and so far has given good grounds for believing that he will be greatly benefited.

SALE OF CARBOLIC ACID.

President Murphy, of the Health Department, has just declared war on the many druggists who sell carbolic acid without let or hindrance. He speaks of them as "suicide venders" and those who "sell death by the ounce," and asserts that as he has the Board of Pharmacy on his side—which, by the way, is the first time in thirty years that the College of Pharmacy has been in harmony with the Board of Health—he expects to win. That there is a just cause for action is shown by the ease with which the drug can be procured; not only is there no need to have a physician's prescription, but the druggists quite commonly make no pretense of even living up to the letter of the Penal Code, which is itself very lax. During the nine months of the present year no less than 127 persons have committed suicide with carbolic acid.

STATE OR MUNICIPAL AID FOR HOSPITALS.

The question of the justice and expediency of hospitals receiving aid from the state or municipality has been kept quite prominently before the public in this city for the past year or two. Comptroller Coler's vigorous crusade against the time-honored custom of allowing many semipublic institutions to help themselves liberally from the public treasury has borne good fruit. A few days ago, at a hearing before the State Board of Charities, the president of the Mt. Sinai Hospital pointed to his institution as an example of the right way of dealing with this matter. He believes in granting state or municipal aid to hospitals only when they bring an appreciable measure of support and advantage to the city by making part provision for care of the sick poor who would otherwise be wholly a burden on the city. Since the incorporation of the Mount Sinai Hospital in 1852, that one has contributed over four million dollars, collected from private sources toward the support of the sick poor, and in all likelihood this amount would otherwise have had to come from the municipality. Last year, for the first time, and owing to a special emergency, the Hospital asked for and received a little aid from the city, but this, he thought, did not in any way vitiate the general principle he laid down.

Philadelphia.

Two trained nurses from this city have been engaged for the *Maine*, the hospital ship to sail from England, at an early date, for South Africa.

The beneficiaries of the Charity Ball are: the University and Jefferson hospitals, Southeastern Dispensary Hospital for Women and Children, and the Women's Directory.

The total valuation of the estate of the late Dr. Pepper has been apprised at $670,886.63. A life insurance policy of $50,000 is included in the above sum.

Dr. Alfred E. Taylor was recently tendered a banquet at the University Club, in honor of his appointment to a chair in the faculty of the University of California, as noted in our news columns.

The Loan Bill which guarantees a system of filtration to this city, received a cordial indorsement at the polls on Tuesday last. The question now comes up whether this money will be spent as is hoped for.

That insanity may result from the excessive use of cigarettes has been discussed pro and con by physicians here during the past week. The case in point was one in which a man committed murder and afterward killed himself. It developed that he was addicted to this habit.

The deaths occurring during the past week numbered 314, a decrease of 67 over those of last week and of 833 over the corresponding period of last year. The principal causes were: apoplexy, 13; nephritis, 18; cancer, 11; tuberculosis, 46; heart disease, 23; suicide, 1; diphtheria (117 cases), 24; scarlet fever (68 cases), 4; typhoid fever (36 cases), 8.

Health Officer Heller desires to begin fighting infectious diseases before they gain admittance into the city, and to this end is urging that the legislature be asked to provide a quarantine boat, fitted up for the reception and detention of all persons suspected of having been exposed, and that arrangements be at hand for the proper fumigation of the effects of such persons. The method advised is modeled after that in vogue in New York.

A case of considerable interest from a medicolegal point of view occurred during the past week. A man employed as a driver by one of the stores was charged with having collected $19 and spent it in liquor. The charge was embezzlement, to which the man pleaded guilty. The judge, however, ordered the man to withdraw his plea and instructed him to enter one of not guilty. In the decision the judge said: "Where a firm entrusts with money a person whom they have reason to suspect of intemperate habits, and he does not appropriate the money to his own use or make off with it otherwise than to indulge in the gratification of his habit, employers must understand that it is extremely doubtful whether the crime of embezzlement can be made out under such circumstances." The decision seems to be viewed differently by lawyers, not only on the opinion's construction, but also on the effect it might have on similar cases.

Chicago.

AN INCUBATOR ward for infants is to be established in the Chicago Lying-in Hospital.

DR. H. B. STEHMAN, superintendent of the Presbyterian Hospital, has left for Pasadena, Cal., where he will remain during the winter, on account of ill health.

ANOTHER imported case of smallpox has been discovered and isolated, which makes the third case brought to the city from Storm Lake, Iowa, within a week. There has been no spread of the disease from the cases recently treated, but the danger period has not yet passed. The Health Department is vigorously pushing the work of vaccination among the exposed in the Greek colony. The work has shown a much larger proportion of unvaccinated than had been suspected, and this is true of more intelligent classes.

SEVERAL months ago it was announced that there was no institution in the city for the exclusive care and treatment of consumptives. Subsequent agitation of the subject resulted in the formation of a committee composed of leading business men for the purpose of investigating the feasibility of establishing a hospital of this character. The Committee has issued a circular letter outlining the general plans of the hospital, and asking cash donations for the building, which will cost $150,000. The hospital will be conducted under the auspices of the Sisters of St. Elizabeth's Hospital, who have donated the site at the corner of Division and Forty-eighth streets.

A COMPETITIVE examination for three positions as externe beginning June 1, May 1 and Sept. 1, 1900, will be held at the Michael Reese Hospital December 20-22. The examination will be both written and oral, on internal medicine, and physiology, surgery and anatomy, gynecology, obstetrics, children's and skin diseases. Applicants must present their class gradings of the past three years, and certificates of character, before November 25. The term of externeship embraces eight months, and satisfactory service entitles the candidate to an appointment as interne for a term of one year.

THE TOTAL mortality for the past week was 440, which shows a decrease of 45 as compared with that of the corresponding week of last year. According to the weekly bulletin of the Health Department, the epidemic contagious diseases, especially diphtheria and scarlet fever, have been more prevalent and more fatal this year than at any time since 1885, and the deaths among those over 60 are largely in excess of the average. This latter increase is said to be due to the prevalence of influenza last spring, but the increased mortality from diphtheria is attributed to "an unaccountable neglect of the antitoxin treatment." It is shown that 5000 cases of true diphtheria have been treated by the medical inspectors of the Department since the introduction of the antitoxin treatment in 1885. Of this number only 322 died—a mortality of less than 7 per cent. Of 3000 cases reported to the Department this year, and not treated by its medical inspectors, there have been more than 600 deaths—a mortality of over 22 per cent., more than three times the rate of all cases treated with antitoxin. The Department urges that all cases of suspicious sore throat be regarded as diphtheria until proven to the contrary.

Baltimore.

THE UNION Protestant Infirmary opened November 13, after extensive improvements.

TYPHOID FEVER is unusually prevalent in this city. One of the students at the Woman's Medical College has just died of the disease, contracted while nursing a family.

PROF. L. ERNEST NEALE and Miss Sadie Sterett Littig, daughter of the president of the National Marine Bank, were married November 4.

DR. IRA REMSEN, Ph.D., of the Johns Hopkins University, returned on the 7th inst., after a three-months absence in Europe, where he went to attend several scientific meetings.

AT THE recent election in Maryland, Dr. Elijah Williams was elected State Senator from Anne Arundel County and Dr. Joshua W. Hering of Carroll County State Comptroller. Dr. John B. Schwatke was elected sheriff of Baltimore. All the above are graduates of the Medical School of the University of Maryland.

THE SEMI-ANNUAL examinations of candidates for license to practice in Maryland were held at the rooms of the Medical and Chirurgical Faculty, November 9 and 10. Twenty-four men and two women took the examinations. Six of the number held the Johns Hopkins University diploma. In this state every one intending to practice has to take examinations, whether holding a diploma or not.

Canada.

TORONTO, Nov. 11, 1899.

HOSPITAL SCANDAL IN KAMLOOPS, B. C.

Kamloops has a small-sized hospital scandal on its hands A couple of weeks ago the hospital board met for the purpose of letting the annual contract for drug supplies, and two physicians charged that the local drug firm which had the contract for the past year, had defrauded the hospital and rendered operations dangerous by supplying a "blue label" chloroform instead of the "white label," which is the proper brand to use for anesthetic purposes. The principal of the drug firm did not attempt to deny the charge, but took refuge behind the statement that the inferior variety was just as good for the purpose as the superior. Dr. Lambert produced a letter from the manufacturers of the "blue label" chloroform, saying it was manufactured from acetone and not prepared for anesthetic purposes at all, but for preparation of liniments, etc., alone. The defendant quoted a number of doctors in British Columbia who were in the habit of using this cheaper variety, stating that they had never seen any ill effects from its employment; one physician asserting that he considered the "blue label" better for the purpose than the "white label" specially manufactured as an anesthetic, as he had had two accidents from the latter and never had any from the other. The druggist then seems to have admitted that on one or two occasions he might have supplied the inferior and cheaper brand at the price of the superior quality, but that it was a mistake on the part of his clerks and was not intentional, and charged that if this did really occur that his predecessor in the firm had done the same thing; but this was subsequently disproved by the physicians producing an affidavit from the former proprietor of the drug company that the charge was foundationless. The hospital authorities have awarded the contract to the same firm for the ensuing year; but there seems to be no doubt that the firm will supply the proper "white label" in the future.

ONTARIO MEDICAL COUNCIL AND LODGE CONTRACT PRACTICE.

During the last meeting of the Ontario Medical Council this subject came up for discussion. From the annual announcement of the Council, which has just reached the profession, it would appear so far as the Council as individual members is concerned, there are no two opinions in regard to this disgraceful practice. A committee was first appointed to report before the final sitting of the Council in regard to the matter, and that committee elected Dr. Barrick of Toronto, a very strong opponent to the nefarious system, as chairman. This committee brought in an interim report and asked that they be empowered by the Council to gather information for the space of one year and at the next meeting of that body present their report in full. A long and animated discussion was precipitated, and it transpired that the committee had in mind the idea that a circular letter ought to be sent to every member of the College of Physicians and Surgeons in the province asking them a certain list of questions as to their opinion on this subject, and another circular letter addressed to the secretaries of all subordinate lodges of every fraternal organization which had lodge contract practice engrafted as a portion of their constitutions. The matter was finally shelved by the adoption of the amendment to the adoption of the report of the committee.

Book Notices.

Elements of Vital Statistics. By Arthur Newsholme, M.D., Lond., F.R.C.P., Examiner in State Medicine to the University of London, and in Preventive Medicine to the University of Oxford. Third Edition. London: Swan Sonnenschein & Co., Ltd. New York: The Macmillan Company. 1899.

This work is a third edition, the first having been published in 1889, and it forms almost entirely a new book, although the general plan remains as hitherto, as the author states in his preface. He has left out many statistical tables and inserted a few. In its present form the book will maintain the credit of the former editions in an enhanced degree. In fact, as a convenient work for reference, and a guide to those working in vital statistics, it stands almost alone in our language, no other recent work certainly approaching it or taking its place. The author points out many of the fallacies of vital statistics, and in the close of the work gives a special chapter to this subject, which ought to be carefully studied by anyone attempting work in this line. All we can say in criticism is that we wish he had done a little more, as there is an infinite number of conditions in which errors creep in, and while it would be impossible to include them all, and perhaps not more than he has given, there are still one or two points which we think he might also have made. Thus, he does not especially mention the error due to special conditions of population that exist in some countries rather more than in Great Britain, at least not as fully as we could have wished. At the present time when so much is made of the increasing frequency of certain diseases, such cautions as are here given are especially valuable. We can cordially recommend this work in every respect, and while the author modestly admits that errors may have crept in, we believe with him that they are very few.

An Essay on the Nature and Consequences of Anomalies of Refraction. By F. C. Donders, M. D., Late Professor of Physiology and Ophthalmology in the University of Utrecht. (Translated under the supervision of the Kirschbaum School of Languages and Bureau of Translation of Philadelphia.) Revised and Edited by Charles A. Oliver, A.M., M.D., Attending Surgeon to the Wills' Eye Hospital, Philadelphia. Pp. 81, with portrait and other illustrations. Philadelphia: P. Blakiston's Son & Co. 1899.

In bringing out this interesting essay, the editor has been animated by a desire to do honor to a man who looms up among his contemporaries. We may safely call Donders a great man, for he did much to place ophthalmology on a truly scientific plane, and in this little brochure are presented the principles of refraction of the eye that have formed the basis for the elaborate work done in subsequent decades. It will certainly prove of interest to the ophthalmic student, and we may thank the editor that he has shown a "desire to give a great man greater honor and to offer such a man's work an increased amount of usefulness."

The Nervous System and its Constituent Neurons. By Llewellys F. Barker, M.B., Tor., Associate Professor of Anatomy in the Johns Hopkins University. Illustrated. New York: D. Appleton and Company. 1899.

The original suggestion of this work was found in a series of articles by the author which appeared in the *N. Y. Medical Journal* during the past two or three years. The subject soon outgrew the periodic publication and the present volume is the result. The introductory chapters are those that have already appeared, revised and brought up to date, but the bulk of the book is new. In the first part of the volume the newer conceptions of the histology of the central and peripheral nervous system are reviewed. Dr. Barker has no notion that the discoveries of Apathy and Bethe will seriously affect the neuron theories, but gives considerable space to them in his introductory chapters. So far as we can judge, he makes his case, and it seems to be hardly doubtful that the neuron is a permanent conception in our views of the anatomy of the nervous system.

The greater part of the work is new and is devoted to the description of the neurons in their relations to each other, their grouping and connections in the complex nervous system of the higher organisms, man and his fellow mammals. This forms a treatise of nervous, physiologic anatomy and physiology, more complete and up to date than any other that we know of in our language, or in fact in any other. While research is so active in this direction, it is impossible for any work to go long without revision, but even if there is no future edition, this will serve for a useful landmark—a text-book from which all further and later studies may start. The work is full of illustrations, the adapted ones duly credited, but a large proportion original, and all excellent. The literary references are also very full and complete. Taken altogether it is a most valuable work of a class that is not as fully represented in our literature as one could wish.

Asthma: Recent Developments in Its Treatment. By Ernest Kingscote, M.B., C.M., L.R.C.S., Edin.; Fellow of the Medical Society of London, etc. Illustrated. London: Henry J. Glaisher. 1899.

This work gives a special statement of the author's views of causation of asthma, and more than half of the work is devoted to a consideration of cardiac dilatation, with the author's ideas in regard to it and its connection with the disorder, the subject itself being comparatively a minor matter. Taking it altogether, we are not exactly favorably impressed with the work, though it may contain some facts and ideas that will be of service. The publisher's part has been very elegantly done.

Chirurgie De La Plevre Et Du Poumon. Par Felix Terrier, Professor a la Faculte de medicine de Paris Chirurgien de l'Hôpital Bichât, and E. Reymond, Ancien Interne des Hopitaux de Paris. 67 Illustrations. Paris: Felix Alcan, Editeur. 1899.

The authors of this work have reproduced here the lectures of Professor Terrier, given at the medical school of Paris in 1895 and 1896. The different chapters are devoted to thoracentesis, purulent pleurisy and pleurotomy, thoracoplasty, surgery of the pleura, the treatment of wounds of the lungs, pneumotomy and pneumectomy. The work is well illustrated and seems to be, within its compass, a very excellent treatment of its subject.

Rise and Development of Liquefaction of Gases. By Willett L. Hardin, Ph.D., Harrison Senior Fellow in Chemistry in the University of Pennsylvania. New York: The Macmillan Company. London: Macmillan & Co., Ltd. 1889.

The general interest that has been aroused within the past year or two in regard to the subject here treated ought to give such a work rather an extensive range of readers, more, indeed, than might be expected for a work that is necessarily so technical in its nature. The author has done a service to the public, especially to that part thus interested, in collecting the scattered facts from the literature and bringing them together in this accessible and clearly stated form. He has judiciously changed his first intention, as he says, and does not attempt to give a complete account of gases at low temperature and their industrial application. The book is well illustrated and will doubtless be well received.

Deaths and Obituaries.

Ernest Diese, M.D., a graduate of the University of Jena, who for many years practiced his profession at Willow Grove, Pa., died in Philadelphia, October 31, aged 78.

Dana Woodbridge, M.D., professor of anatomy and physiology in Williams College, died November 5. He was a graduate of the College of Physicians and Surgeons, New York City.

C. R. Reed, M.D., Middleport, Ohio, a graduate of Jefferson Medical College, Philadelphia, 1853, for a number of years a member of the Association, died October 31, aged 73.

Charles Inslee Pardee, M.D., New York University, 1860, died November 3, aged 61 years. He was long a resident of New York City, dean of the old University Medical College for twenty-five years, a Civil War veteran and a specialist in diseases of the eye, ear and throat

Alfred Thomas Drury, M.D., Castleton Medical College, Vt. (now extinct), 1857, died at his home in Brooklyn, N.Y., November 1. He was born in Hull, England, Jan. 8, 1830, and was the son of a wealthy coal dealer. He was active in practice until about five years ago.

Thomas L. Jenks, M.D., Harvard, 1854, formerly a police commissioner of Boston, dropped dead October 31, in the superior criminal court of that city, where he had been called as a witness. He was president of the North End Savings Bank.

Edward Bleecker, M.D., College of Physicians and Surgeons, New York City, 1865, died at his home in Whitestone, N. Y., November 5. A descendant of Van Vancy, the first recorder and second mayor of Albany, N. Y., he was born in that city, Jan. 9, 1844. The greater part of his life was passed in Whitestone, where he took an active interest in village affairs, serving as a member of the Board of Education for twenty-five years. He also was a promoter of the Flushing Hospital and the first president of its medical staff.

James L. Tucker, M.D., Chicago, a graduate of Harvard in 1867, died at his home, November 12, aged 59 years.

J. J. Carroll, M.D., Washington, D.C., died November 5, aged 40 years. He was a graduate of the Medical Department of Columbian University, serving as a resident physician at the Children's Hospital two years thereafter. He was then appointed surgeon in the army and for seven years served at western army posts, thence returning to Washington. His death is said to have been due to blood poisoning contracted during his surgical work in the army.

John A. McCreery, M.D., aged 50 years, and one of the attending physicians at St. Vincent's Hospital, New York City, died November 10, after an illness of about three months. Dr. McCreery was graduated from the Bellevue Hospital Medical College in 1871, and, going to London to continue his studies, was graduated from the College of Physicians and Surgeons there in 1874.

Surgeon Major Samuel Q. Robinson, United States Army, died at Hot Springs, Ark., November 6. He was born in Massachusetts, and was appointed an assistant-surgeon on Jan. 1, 1877, a captain assistant-surgeon, Jan. 9, 1882, and a surgeon major, May 2, 1896.

Walter J. Hoffman, M.D., died at his birthplace in Reading, Pa., November 8, aged 53 years. He was a graduate of Jefferson Medical College, and was formerly identified with western scientific expeditions and the Smithsonian Institution, as well as being U. S. Consul at Mannheim, Germany. He also received decorations from a number of foreign rulers and scientific bodies.

David K. Allen, M.D., Freetown, N.Y., died October 28, aged 72....John Bainbridge, M.D., Nashville, Tenn., October 28, aged 85....George W. Brundage, M.D., Geneva, N.Y., September 23, aged 77....Daniel D. Donovan, M.D., Troy, N.Y., October 27, aged 28....P. L. Fritz, M.D., Alexandria, Ind., October 28, aged 35....John W. Kelly, M.D., Washington, Pa., October 30, aged 76....W. C. Taylor M.D., Tangipahoa, La., October 24.

RESOLUTIONS ON DEATH OF DR. MAILLY.

The following resolutions were adopted at a meeting of the Bridgeton (N.J.) Hospital staff, November 1. (See Journal, September 9, p. 683):

Whereas, The death of Dr. Hamilton Mailly has taken from the hospital staff of the Bridgeton Hospital one of its most valued members and,

Whereas, During the time that Dr Mailly had served on the staff he had by his professional ability and attainments, by his unfailing courtesy and his always ardent devotion to what he believed to be right given character and dignity to the honorable profession of which he was a member;

Resolved, That the staff place on record their sincere regret at his untimely death as well as their high appreciation of his many qualities of mind and heart which led them to respect him as a man and honor him as a physician.

[Signed] John H. Moore,
David H. Oliver,
Ellsmore Stites.
Committee.

New Instrument.

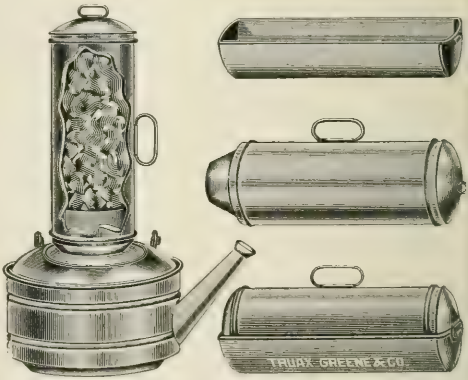
A NEW STERILIZER FOR COUNTRY AND PRIVATE PRACTICE.

BY HAMILTON FISH, M.D., OURAY, COLO.

In an endeavor to obviate the lack of facilities of the practitioner who is unable to obtain the steam sterilized materials required by the asceptician in country practice, I have devised a steam sterilizer that is adjustable to the ordinary household teakettle and I believe that it will appeal to those practitioners who are desirous of obtaining the results attainable only by a strict adherence to the principles of an aseptic technic. The apparatus is remarkably simple, inexpensive, easily portable—it being no larger than a physician's gripsack—and its sterilizing properties as efficient as the more expensive and cumbrous apparatus. Its great advantage is that it is easily portable and always ready for use where a teakettle of boiling water is obtainable.

Dressings may be packed and sterilized in this instrument at the physician's house and kept ready for immediate use in the dressing of accidental injuries or for the performance of emergency operations at a distance.

The apparatus consists of a double copper cylinder, two removable wire meshed frames—between which are placed the materials for sterilization—a cone-shaped adjuster fitting to the cylinder so that, when in use, it may be adjusted to the mouth of any sized teakettle, and when not in use is reversible within the lower end of the cylinder, and two tightly fitting dome-shaped covers.



When it is to be used for the sterilization of dressings, towels, etc., the articles are placed within the cylinder and rest on the lower wire frame, the upper frame being placed over them, the top cover applied, the adjuster removed and adjusted to the lower end of the cylinder and to the mouth o the teakettle. The kettle spout is plugged with a tightl fitting cork and the steam under pressure passes through th dressings and congeals on the inner surface of the dome shaped cover, which it follows to the sides, and then the wate of condensation is returned through the space between th cylinders to the kettle. The dressings are found quite dr after a sterilization of from one-half to one hour, but shoul they be too moist the adjuster and top cover may be remove and the cylinder placed within the stove oven until they ar dry.

During an operation the dressings, frames and adjuste may be removed and the cylinder filled with boiling water, t which has been added about a dram of common salt to the pin of water, the covers fitted tightly, and placed under the col water tap. When the boiling water has reached the prope temperature for use in the wound, it can be poured from th cylinder as from a pitcher. This enables the surgeon to o tain, at a moment's notice, all the sterilized physiologic sa solution required without the addition of water that is co taminated, for cooling purposes. The cylinder fits snug into an instrument tray which is always ready and serviceab for the sterilization of instruments on the kitchen stove.

Miscellany.

No Quack Advertisements.—Says an exchange: "There is at least one daily religious newspaper in the world. It is the *Montreal Witness*, of Canada. It has 200,000 readers and is edited by the son of a sturdy Scotchman, John R. Dougall. It sacrifices about $50,000 a year because it refuses to advertise quack medicines, and theater and sporting gossip. To its wholesome influence is ascribed the fact that none of the Canadian dailies issue Sunday editions."

Puncture of the Bones.—Tillmanns urged, at the German Congress of Physicians and Naturalists, that surgeons make more general use of puncture of the bones for diagnostic purposes. Most valuable information may be derived from this harmless procedure. Any point on the bone and the joints can be punctured. His method is not to incise the soft parts, but to insert a delicate steel needle connected with an electric motor, directly through the skin into the bone.

Sequester from Acute Osteomyelitis.—Mueller has three times observed, in an experience of four hundred cases of this affection, a circumscribed callous formation over a sequester from the joint or bone, simulating a malignant sarcoma, according to *Wien. Klin. Rund.*, October 15. The patient has usually forgotten the acute painful affection of the bone or joint involved, which occurred in one case twenty years before, and does not recall it until the sequester is found at the operation. The tumor, in two cases, the size of half an apple, was slightly movable.

Examinations in New Hampshire.—The sixth examination for licenses to practice medicine in New Hampshire will be held at the State House, Concord, Dec. 14 and 15, 1899, beginning at 8 o'clock a.m. All physicians who were not in practice in this state on and before March 16, 1897, must pass the examinations in order to receive a license to legally practice their profession. Application blanks must be filled out and in the hands of the regent by December 10. For information, address the Department of Public Instruction, State Library, Concord.

Protection of Medical and Surgical Discoveries.—The International Association for the Protection of the Rights of Writers and Artists held its twenty-first annual congress at Heidelberg this year (*Independ. Belge.*, October 1), and one of the speakers, G. L. Pesce, made an urgent appeal to extend the scope of the Association to include the protection of the rights of intellectual invention, whatever its manifestations, and even before they are actually realized in concrete form. "How many discoveries and inventions, and of the most extreme importance, made by physicians, chemists, etc., have never been and can not be patented nor protected by any legal method!" "Human thought—as precious as life—has the same right to protection as life itself, and during every period of its development, from its first conception to its actual birth."

Disclosures Prohibited by Statute.—The disclosures prohibited by section 834 of the New York Code of Civil Procedure, the second appellate division of the supreme court of that state says, are only such as are necessary to enable the medical man to act as physician or surgeon. The prohibition does not extend to admissions made by a party to an action of facts which have, and can have, no possible relation to the professional conduct of the medical or surgical practitioner. Therefore, it holds, in the personal injury case of De Jong vs. The Erie Railroad Company, that, as nothing that the plaintiff could say in regard to his observation of the train which struck him, or his failure to observe it, could, by any possibility, have been material or useful to the attending surgeon in the latter's treatment of him as a patient, whatever statement the plaintiff made on that subject was wholly outside the case in its medical or surgical aspects, and was not a privileged communication.

Difficult Labor from Exaggerated Constriction of the Ring of Bandl.—Bué has collected a number of observations of intrauterine putrefaction of the fetus with the frightful maternal mortality of 60 per cent. (*Nord. Med.*, October 15.) On analysis the extreme gravity of shoulder presentations becomes evident; the putrefaction is exceptionally rapid in this case, probably on account of the penetration of air into the uterine cavity, and the difficulties of obstetric maneuvers are increased in these circumstances. Extreme constriction of the ring of Bandl is peculiarly liable to cause trouble in the second stage of version with shoulder presentation. This cause of dystochia may occur with a putrefied fetus and a slight degree of physometra. It may be so extreme as to prevent delivery by the natural route and render a Porrro necessary. This intervention may also be advisable in cases of putrefaction when the maternal organism is already profoundly intoxicated, in order to remove the infectious focus entirely. The Porro seems to be especially indicated in case of trunk presentation which is so frequently fatal in its results.

Simple and Rapid Method of Counting White Corpuscles.—Lyonnet (*Lyon Medical*, p. 431) utilizes the property of acetic acid to dissolve the red corpuscles, as the basis of his method. Two graduated pipettes are necessary, one to receive the drop or drops of blood to a certain mark, the other filled with seven times this amount of a 6 per cent. solution of acetic acid. The blood is then poured from the first into the second pipette and well mixed; the red corpuscles are rapidly destroyed. A drop is then transferred from the pipette to a square in the Hayem-Nachet counting apparatus, and examined with the microscope, taking the average of several drops. The little square in this apparatus corresponds to a cube of a fifth of a millimeter and multiplying by 125 gives the proportion for a cubic millimeter. But the blood only forms one-eighth part of the fluid, hence the number of white corpuscles noted in the drop must be multiplied by eight to estimate the number of corpuscles in a drop of pure blood. The formula is therefore 125x8=1000. Thus, the number of white corpuscles counted in one square of the apparatus, multiplied by 1000, gives the total number of white corpuscles in a cubic millimeter of the blood.

Craig Colony Prize for Original Research in Epilepsy.—Last year Dr. Frederick Peterson, president of the Board of Managers of the Craig Colony for Epileptics, offered a prize of $100 for the best original contribution to the pathology and treatment of epilepsy. The seven papers received were submitted to three members of the New York Neurological Society, who reported that no award would be made this year. Some of the essays submitted failed to comply with the conditions of the competition, others were more limited in scope than a successful essay should be. The prize of 1899 not having been awarded in accordance with the report of the committee, Dr. Peterson now offers a prize of $200 for 1900, under similar conditions. This will be awarded to the author of the best contribution to the pathology and treatment of epilepsy. Originality is the main condition. The prize is open to universal competition, but all manuscripts must be submitted in English. Each must be accompanied by a sealed envelope containing the name and address of the author and bearing on the outside a motto or device which is to be inscribed on the essay. All will be submitted to a committee, consisting of three members of the New York Neurological Society, and the award will be made on its recommendation, Oct. 9, 1900. Manuscripts should be sent to Dr. Frederick Peterson, No. 4 W. Fiftieth St., New York City, on or before Sept. 1, 1900. The successful essay becomes the property of the Craig Colony and will be published in its medical report.

Surgical Treatment of Exophthalmic Goiter.—While exophthalmic goiter is not a fatal disease, except in the rare cases of acute onset and fulminating course, it is sometimes most protracted in duration, and it may prove a most troublesome condition. The most successful general treatment consists in the administration of remedies like strophanthus and the bromids, in conjunction with extra rest, a quiet mode of life, and a milk diet. Thyroid extract does harm rather than good, and thymus and splenic extracts, which have also been recommended, are not to be depended on. When medicinal measures have failed, or when the symptoms become alarming, by reason of pressure exerted by the enlarged gland, of excessive tachycardia, of diarrhea, or of asthenia, surgical treatment may be resorted to. Various operations have been suggested, and the results, as given by Rehn (*Berliner Klin. Woch.*, Oct. 15, 1899, p. 929) at a recent meeting of the society of German Naturalists and Physicians at Munich, show that among 177 cases, in which the resection of the goiter was practiced, recovery ensued in 57.6 per cent., improvement in 26.5 per cent., death in 13.6 per cent. and failure in 2.3 per cent. Of 32 cases in which resection of the sympathetic nerve was practiced, recovery ensued in 28.1 per cent., improvement in 50 per cent., failure in 12.5 per cent. and death in 9.3 per cent. Of 14 cases in which ligation of the thyroid arteries was practiced, recovery ensued in 2.4 per cent., improvement in 50 per cent., and death in 28.6 per cent. Of a total of 319 cases operation was followed by recovery in 51.8 per cent., by improvement in 37.9 per cent., by death in 13.1 per cent., and by failure in 4.1 per cent.

Report of German Commission Sent to India in 1897 to Study Plague and Leprosy.—Among the points noted in an abstract of the report (*Muench., Med. Woch.*, October 10) recently published in the official bulletin, is the fact that the plague bacillus is very sensitive to rapid desiccation, but resists slow drying at a low temperature. Moist heat is also very destructive, killing it at 55 C. in ten minutes and immediately at boiling point. One per thousand sublimate kills it at once; 5 per cent. carbolic acid in one minute. Dogs and pigs are quite resistant to the plague, and birds are entirely immune. Effective vaccin could only be obtained with very virulent cultures. The improvement on the Haffkine method consists in subcutaneous injections of extremely virulent agar cultures killed by being heated to 55 C. during two days, which allows more exact dosage and seems to retain the immunizing substance in more perfect conditions. The portion of the work relating to leprosy announces that the one constant sign of leprosy, the first to appear and last to vanish, in all varieties and stages of the disease, is an ulceration in the nose or the evidences of former ulcerations, which always contain numbers of the bacilli, usually highly virulent. Even after all other signs of leprosy have disappeared, the nasal lesion may contain virulent germs for years. Itching in the nose, catarrh, swellings, violent nasal hemorrhages, are frequently the initial symptoms of leprosy and may exist for years before any other symptoms manifest themselves. In examining for leprosy this nose lesion must be sought first, especially in children of leprous parents, etc., and no leper must be considered cured and harmless for his environment until this nasal lesion has entirely healed and is sterile. All therapeutics of leprosy must aim to cure this nasal lesion as its chief task. All the other lesions of leprosy have a tendency to spontaneous healing; this alone persists with extraordinarily rebellious obstinacy.

Malarial Fever, So-Called, Communicating Typhoid.—The secretary of the Michigan State Board of Health writes us that he has received a letter from a resident of that state, in part, as follows:

A creek runs by and is fed from a stream issuing from the cemetery. The family living on and taking care of the cemetery drinks water from the cemetery well, and has had typhoid fever in the house for nearly a year. The slops from the house all go to the creek. A neighbor's dairy cows pasture in the valley of the stream. The owner of the cows has typhoid fever in his house, and sells milk. One family has four cases and has lost one, the mother. Relative to the sickness in the family of the sexton, the attending physician, while diagnosing the sickness as malarial fever, states: "The two girls had fever just two weeks and no fever afterward. The boy now sick has been sick two weeks." Relative to the sickness in the family of the milkman, the attending physician says: "I was called to the house and found two cases of fever, one malarial, and the other showed symptoms of typhoid, for which I placarded the house, to take all precautions. The malarial only lasted six days. During my absence another doctor was called and has had three cases which ran from two to three weeks, none of which he called typhoid." The health officer, who was the attending physician to the family having four cases, reports: "The family getting milk from this house developed four cases of typhoid fever, and the fever was of septic type. The mother was delirious from the first, and died on the twenty-first day. . . . Now what are you going to do if the doctor in attendance does not call the disease typhoid?" Acting under instructions from the secretary of the State Board of Health, to "Placard 'typhoid fever' all premises infected with fever of doubtful origin continuing more than seven days," the health officer investigated and reported: "In my opinion it is a case of typhoid, although it does not present all the symptoms. The case is now seventeen days along. . . . everything goes to show that the cases are typhoid." This patient was in the milkman's family and was taken sick the same time the four were in the family of the milkman's patron. In another letter the health officer says: "I know that my four cases with one death contracted the disease from this 'malarial' house. I have placarded the house." A local paper, in commenting on the outbreak and the action of the health officer, says: "There may be instances where a seeming injustice is done in isolating fever patients when not having an infectious disease, but it is not as great an injustice to quarantine one family as it is to jeopardize the health of the whole neighborhood by not complying with the rules laid down and thus preventing any possibility of disease spreading through a difference of opinion among physicians."

Reverses Judgment.—The supreme court of Wisconsin has reversed the judgment which the plaintiff obtained in the malpractice case of Kickhoefer vs. Hidershide, on the ground that a verdict of $2000 would be very clearly excessive for such degree of impaired use of the hand and fingers as was shown by the evidence. To go back a little, it seems that the defendant, a physician, attended and treated the plaintiff for a fractured wrist from the time of a fall, February 9, to April 26 following, at which time he was discharged. The wrist was then seriously distorted, and its use impaired, the arm atrophied, the shoulder considerably stiffened, and the hand and fingers stiff, and somewhat shrunken. She received treatment from other physicians, including a severe surgical operation to straighten and mobilize her wrist, and at the time of trial had in a large measure, though by no means entirely recovered. She sued the defendant for malpractice, alleging all of the above mentioned results as the basis of damages and recovered verdict and judgment for $2000, from which the defendant appealed. Now, first of all, the supreme court says that the evidence wholly failed to show that the disabled condition of either the shoulder or the wrist, or the atrophied condition of the arm, was the result of any negligence or malpractice on the part of the defendant, and were not the natural and legitimate results of the accident suffered by the plaintiff and for which the defendant was not responsible. This it follows with its decision, as first above stated. Cases of this sort, where the very substantial injury and extreme suffering on the part of the plaintiff are so apparent, the supreme court goes on to say, appeal strongly to the sympathies both of court and jury, and in the trial the duty upon the court is all the greater to very carefully consider the relationship between the treatment of the physician and the results to the patient and to guard against submission of the case to the jury in such form that their sympathies may have an opportunity to visit upon the defendant liability for those injuries which are but the unfortunate result of the accident itself, and not of his treatment.

Physical Development of School Children.—Dr. R. Tai McKenzie, demonstrator of anatomy at McGill and medica examiner for the Montreal Amateur Athletic Association, read an important paper on this subject before the Protestan Teacher's Association of Quebec at their recent meeting. H compared the conditions surrounding the life of the boy of to day and the boy of yesterday and dwelt on the fact that th city child has very little opportunity in the way of play grounds and "chores" in which to cultivate a good physica development. He deprecated "forcing" and overwork, bot physical and mental, at this period of life, fearing a permanen injury in the way of disease and deformity; and emphasize the importance of good feeding, healthy surroundings an abundant regulated bodily exercise. As to physical training i the schools, there should be enough periodical exercise t counterbalance the constant strain of discipline necessary t keep children quiet and orderly. Some such system, aft every fifteen minutes' study, as five minutes of free extensio movements, to relieve the muscles and correct collapsed po ture, should be instituted; and once a day at least, there shou be a half hour devoted to brisk exercise, hard enough to pr duce a free flow of perspiration, with a subsequent change clothing, and a tepid or even a cold bath. The Doctor thought there was a necessity for medical supervision over school children, as irreparable damage might be done by too severe exercise in those who were not up to the normal physical standards. Military drill is unfit for physical training. as it is not designed for that purpose, the constrained positions and long waits being unlikely to improve the figure of the growing lad. In the Montreal High School for boys, a medical examiner attends at special hours and makes an examination of the heart, lungs and muscles, noting any physical deformity or defect, and a certificate of fitness is then given for participation in gymnasium work. A certificate is accepted from the family physician on a special form, which is filed and kept in the high school building. Some such system should be introduced into all schools, and the medical supervision should extend to the inspection of the rooms, the position of the desks and seats, and all other matters relating to school hygiene.

International Congress of Medical Officers of Life Insurance Companies.—Matters of great importance to life insurance companies and medical examiners were discussed at this successful congress, held in Brussels in September. From *Semaine Medicale*, October 4, and other foreign journals, we abstract the following: Wybauw of Brussels stated that applicants suffering from constant albuminuria should always be refused, and also those suffering from albuminuria that has persisted six months after an infectious disease. In case of cyclic albuminuria the candidate need not be rejected if less than 30 years old, free from hereditary and infectious antecedents and the amount of albumin in the urine not over 0.5 per cent., under condition of returning for examination later and paying an extra premium. If the albuminuria persists over five years the company should refuse to continue the policy. Lebœuf refuses every applicant with glycosuria with the single exception of those who had previously had an accidental glycosuria of short duration, disappearing without recurrence for at least five years, and free from personal or hereditary trait and nothing abnormal in the formula of the urine. Salomonsen of Copenhagen rejects every applicant with glycosuria, as it is absolutely impossible to foretell the length of life of such persons, but Siredey while refusing diabetes proper, thinks that a number of other "glycosurics" might be accepted on payment of an extra premium. In his address on syphilis, Bayet of Brussels asserted that all subjects in the secondary or tertiary period of syphilis should be refused, and also after all manifestations have disappeared, until three years have elapsed since infection. If the subject received thorough treatment and a year has pasesd without manifestations, four years in all at least since infection, he may be accepted. In case of insufficient treatment, bearing in mind the chronology of syphilitic manifestations, including tabes, no male subject should be accepted under ten years after infection. As tabes is rare in women, an interval of six years is sufficient in their case. Children with a heredo-syphilitic taint should never be accepted under any circumstances. The address on tuberculosis, by Meyer, stated that every person with tuberculosis of any kind should be rejected, and also every one with tuberculous hereditary antecedents who has or has had pleurisy, non-traumatic hemoptysis, recurring bronchitis, scrofulosis, curvature of the spine or rebellious dyspepsia; also every candidate with both parents tuberculous, if under 35 and not absolutely vigorous; also every person who by antecedents or constitution is a candidate for tuberculosis, and every one descended from tuberculous parents who married a tuberculous subject, unless the latter has been dead two or three years and the candidate has been in good health since. Others emphasized the importance of the weight in determining the predisposition to tuberculosis, and also the "index of vitality," that is, the proportion between the girth of the chest at the nipple and the height. Traumatic hemoptysis was also mentioned as a frequent origin for tuberculous infection, and anal fistula as an absolute barrier to acceptance of the candidate, at least until completely healed. Attention was called to the importance of the ocular symptoms in the diagnosis of grave traumatic neurosis: atrophy of the optic nerve was mentioned as a very serious symptom. No neurasthenic should be accepted unless free from hereditary taint, and not exposed to the action of permanent causes liable to aggravate the nervous troubles. As an early symptom of progressive paralysis, a peculiar paresis of the upper branches of the facialis accompanied by exaggerated knee-jerk was mentioned. The subject of an universal medical formula for examiners was referred to a committee to report at the next congress at Amsterdam in 1901.

Queries and Minor Notes.

NEW METHOD OF ADVERTISING.

FREEPORT, ILL., Nov. 3, 1899.

To the Editor:—Thinking perhaps you would be interested in a new method of advertising, I enclose you an advertisement from a ——, Ill., paper, which shows the depraved state of medical ethics.

I am respectfully, J. H. S.

[The advertisement, in its display occupies six inches, a column wide, more space than we care to devote to it. However, we wish to give others a chance to see it, for it is too original to be buried in a small country newspaper. We are sure the Doctor will be very proud when he knows that 16,000 of his fellow-workers are privileged to read that he "traveled 125 miles to do a surgical operation and save a man's life," although, if very much interested, they might want to know whether he did the operation after travelling 125 miles for the purpose.] The advertisement is as follows:

> ONE YEAR AGO TO-DAY
> I TRAVELLED 125 MILES
> TO DO A SURGICAL OPERATION
> AND SAVE A MAN'S LIFE.
>
> The man is alive and well to-day, although given up to die at that time by physician attending, as well as the family.
>
> I simply mention this to call your attention to the fact that I can do with success the surgical work which is being, and has been done by surgeons from Chicago and Freeport in this vicinity for years. I am prepared to do all kinds of surgical work and will answer calls at your homes anywhere in this vicinity day or night.
>
> Remember, in addition to all business usually done by physicians, I make a specialty of diseases of the Eye, Ear, Nose and Throat, Surgery and Chronic Diseases.
>
> Your friend, Dr.——.

TEXAS MEDICAL LAW.

CROWLEY, LA., Nov. 10, 1899.

To the Editor:—Will you inform me with regard to the requirements for practice of medicine in Texas? Is there a state board of examiners as in Louisiana and other States? If so, can you give me the address of the secretary of the board; and where the examinations are held and when? Sincerely yours, A. B. W.

ANSWER:—The medical law of Texas requires an examination by a board of examiners which is appointed for each judicial district. We understand that, at least until quite recently, the law has not been very strictly enforced, as there has been much complaint about the laxity, through which all kinds of medical practitioners could obtain license. We can not give the other information, as the boards are local.

CAUGHT BUT BREAKS AWAY.

GLENWOOD, IOWA, Nov. 8, 1899.

To the Editor:—Several months ago I was tendered a certificate of membership and the appointment as a consulting physician of the staff of St. Luke's Hospital, Niles, Mich. Not doubting that the institution was one of merit and good repute, I accepted. On recent information I have returned the certificate to the management, whence I received it, and notified them that my name must not be used in connection with the concern. Truly yours, MINDA A. MCLINTOCK, M.D.

[The above is from a physician who did *not* take the JOURNAL, but received a number containing a recent exposé of the Niles concern. She is *now* a subscriber.—ED.]

BILIARY CALCULI

COLUMBUS, OHIO, Nov. 8, 1899.

To the Editor:—In a recent issue of the JOURNAL (September 16, p. 750), you allude to the Miesenbach case, in which 1100 calculi were removed from the gall-bladder. On August 30, of this year, I operated on a woman from Delaware County and removed 1318 gall-stones. Some of my assistants were inclined to think this was a record-breaker, but I said that they had better look up the matter in some of their text-books before coming to such a conclusion. This was done, with the result that a number of cases were found in which a very much larger number had been removed. Nevertheless, these large numbers are quite unusual.

J. F. BALDWIN, M.D.

The Public Service.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from November 3 to and including Nov. 9, 1899:

Charles H. Alden, colonel and assistant surgeon-general, U. S. A., member of a retiring board in Washington, D. C.

William B. Bamister, captain and asst.-surgeon, U. S. A., from Fort Warren, Mass., to New York City, thence by the first available transport to Manila, P. I., for duty in the Department of the Pacific.

Dallas Bache, colonel and assistant surgeon-general, U. S. A., member of a retiring board in Washington, D. C.

Alfred E. Bradley, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), having tendered his resignation is honorably discharged from service in the voluntary army.

John J. Byrne, acting asst.-surgeon, to accompany the 41st U. S. Vol. Inf. to the Philippine Islands on the transport *Logan* sailing from New York City, on or about November 20, 1899, and on arriving at Manila to report for duty in the Department of the Pacific.

John Ryan Devereux, acting asst.-surgeon from Camp Meade, Pa., to Fort Warren, Mass.

Charles R. Gill, acting asst.-surgeon, from temporary duty at Fort Hamilton, N. Y., to Fort Trumbull, Conn.

Lewie A. Griffith, appointed a first lieutenant and asst.-surgeon, Vols. with rank from August 17, 1899, is assigned to the 42d U. S. Vol. Inf.

F. A. Hodson, acting asst.-surgeon, from Fort Logan, Colo., to Fort Mackenzie, Wyo.

William F. James, acting asst.-surgeon from San Antonio, Texas, to duty in the Department of California.

Arthur W. McArthur, acting asst.-surgeon from Fort Niobrara, Neb., to duty in the Department of California.

G. A. McHenry, acting asst.-surgeon, sick leave extended.

Louis A. Molony, acting asst.-surgeon, from Cincinnati, Ohio, to San Francisco, Cal., for duty in the Department.

Harry S. Moore, acting asst.-surgeon, from Indianapolis, Ind., to Jefferson Barracks, Mo., to accompany the 49th U. S. Vol. Inf. to the Philippine Islands.

George S. Pitcher, acting asst.-surgeon, now in New York City to accompany the 43d U. S. Vol. Inf. to Manila, and to report at that place for duty in the Department of the Pacific.

Walter Reed, major and surgeon, U. S. A., member of a retiring board in Washington, D. C.

Clark I. Wertenbaker, acting asst.-surgeon, from duty in Cuba to Fort Niobrara, Neb.

Ezra Woodruff, major and surgeon, U. S. A., relieved from further duty at Fort Trumbull, Conn., and on the closing of the field hospital at Camp Meade, Pa., will report for duty at Fort Hamilton, N. Y.

Movements of Navy Medical Officers.—Changes in the medical corps of the U. S. Navy for the week ending Nov. 11, 1899:

P. A. Surgeon R. G. Brodrick, ordered to Washington, D. C., November 17 for examination for retirement, and then home and to wait orders.

Surgeon O. D. Morton, detached from the *Ranger* and ordered to the *Monadnock* via the *Solace*.

P. A. Surgeon R. K. Smith, detached from the naval hospital, New York, and ordered to the naval hospital, Mare Island, Cal.

Asst.-Surgeon O. M. Eakins, ordered to the Naval Academy.

Asst.-Surgeon W. M. Wheeler, ordered to the naval hospital, New York.

Asst.-Surgeon H. E. Odell, detached from the naval hospital, Mare Island, Cal., and ordered to the *Ranger*.

Medical Director R. A. Marmion, promoted to medical director.

Medical Inspector M. H. Simons, promoted to medical inspector.

Surgeon L. G. Heneberger, detached from the *Indiana*, November 10, and ordered home and to wait orders.

Surgeon W. A. McClurg, ordered to the *Indiana*, November 10.

P. A. Surgeon Costigan, promoted to assistant-surgeon.

Marine-Hospital Changes.—Official List of Changes of Station and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the fourteen days ended Nov. 9, 1899.

Surgeon C. E. Banks, upon expiration of leave of absence to proceed to Boston, Mass., as inspector of unserviceable property.

P. A. Surgeon T. B. Perry, to proceed to Titusville, Fla., for special temporary duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Atlanta, Ga., and report to the Governor of the State for special temporary duty.

P. A. Surgeon Rupert Blue, relieved from duty at Portland, Ore., and directed to proceed to New York City (Immigration Depot) for temporary duty.

Asst.-Surgeon C. W. Vogel, relieved from duty at Boston, Mass., and directed to proceed to New York City (Stapleton) for duty and assignment to quarters.

Acting Asst.-Surgeon D. E. Dudley, granted leave of absence for 30 days.

Acting Asst.-Surgeon Spaulding Kenan, granted leave of absence for six days.

Surgeon H. R. Carter, to proceed to Miami, Fla., for special temporary duty.

P. A. Surgeon A. C. Smith, relieved from temporary duty at the Tortugas Quarantine station, and directed to proceed on steamer *Powhatan* to the Reedy Island quarantine station.

P. A. Surgeon J. A. Nydegger, to report at Washington, D. C., for special temporary duty. Granted leave of absence for six days. To proceed to Cadiz, Spain, for duty.

P. A. Surgeon E. K. Sprague, granted leave of absence for two days.

Asst.-Surgeon J. B. Greene, granted leave of absence for 21 days.

Asst.-Surgeon S. R. Tabb, to rejoin station at Savannah, Ga.

Asst.-Surgeon J. F. Anderson, granted leave of absence for four days. To proceed to Barcelona, Spain, for duty.

Asst.-Surgeon L. D. Fricks, relieved from special temporary duty at Key West, Fla., and directed to proceed to Miami, Fla., for temporary duty.

Asst.-Surgeon J. W. Schereschewsky, to report to Surgeon L. L. Williams, Immigration Service, New York City, for assignment to duty.

Asst.-Surgeon C. E. D. Lord, to report to medical officer in command, New York City (Stapleton) for temporary duty and assignment to quarters.

Acting Asst.-Surgeon G. A. Gregory, granted leave of absence for five days.

Acting Asst.-Surgeon J. A. Moncure, granted leave of absence for 30 days from November 15.

Hospital Steward F. S. Goodman, granted leave of absence for 30 days from December 1.

PROMOTION.

Asst.-Surgeon J. B. Greene commissioned as P. A. Surgeon.

APPOINTMENT.

Jos. W. Schereschewsky of Massachusetts, and Charles E. D. Lord of Maine, commissioned as Assistant-Surgeons.

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Nov. 11, 1899:

SMALLPOX—UNITED STATES.

Illinois: Chicago, October 27 to November 4, 1 case.
Iowa: Ottumwa, October 1 to 7, 1 case.
Louisiana: New Orleans, October 27 to November 4, 1 case.
New York: New York City, October 27 to November 4, 1 death.
Ohio: Cleveland, October 27 to November 4, 2 cases.
Tennessee: Bristol, October 27 to November 4, 1 case
Virginia: Portsmouth, October 27 to November 4, 1 case, 2 deaths.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, September 30 to October 6, 70 cases, 58 deaths.
Greece: Athens, October 7 to 14, 7 cases, 2 deaths.
India: Bombay, September 26 to October 5, 6 deaths.
Japan, Formosa: Tamsui, July 1 to August 31, 36 cases, 1 death.
Mexico: Chihuahua, October 21 to 28, 3 deaths.
Russia: St. Petersburg, October 7 to 14, 4 cases, 1 death; Warsaw, October 7 to 14, 3 deaths.
Turkey: Erzeroum, October 1 to 7, 2 cases, 1 death; Smyrna, October 8 to 15, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Key West, November 1 to 6, 19 cases; Miami, October 31 to November 6, 27 cases.
Louisiana: New Orleans, October 28 to November 6, 15 cases, 6 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, September 30 to October 6, 5 cases, 4 deaths.
Cuba: Havana, October 19 to 26, 24 cases, 4 deaths.
Mexico: Vera Cruz, October 19 to November 2, 6 deaths.

CHOLERA.

India: Bombay, September 26 to October 3, 2 deaths; Calcutta, September 16 to 23, 4 deaths; Kurrachee, September 23 to 30, 1 case, 1 death.

PLAGUE.

Africa: French Ivory Coast, September 16, recurrence; Lorenzo Marques Magudo, September 11 to 18, recurrence.
India: Bombay, September 26 to October 30, 83 deaths; Calcutta, September 16 to 23, 47 deaths; Kurrachee, September 23 to 30, 4 cases, 3 deaths.
Japan, Formosa: Tamsui, July 1 to 31, 66 cases, 65 deaths.
Paraguay: Asuncion, September 14, plague suspected. Has since been officially confirmed.

CHANGE OF ADDRESS.

Bettman, H. M., from 20 W. 9th St. to Groton Bldg, Cincinnati, Ohio.
Byrd, W. F., from 2423 to 2422 Belmont Ave, Baltimore, Md.
Bolling, L. A., from Spencer to Fort Wayne, Ind.
Bushenville, M. J., from Bottineau to Omemee, N. D.
Brennan, T. F., from San Francisco to Los Gatos, Cal.
Bush, G. C., from Chicago to St. Mary's Hospt., Milwaukee, Wis.
Beardsley, J. A., Chicago, to Moline, Ill.
Bernart, W. F., from Waukesha Hotel, to 218 Central Ave, Hot Springs, Ark.
Cross, E., from Barksdale to Del Rio, Texas.
Cross, E. D., from 3142 Prairie to 3748 Albany Ave, Chicago.
Cooper, A. R., from 2818 Armour Ave. to 3121 Dearborn St., Chicago.
Chapman, W. S., from Rouse to Pryor, Colo.
Dunning, Jesse, from 333 Lincoln Ave. to 1221 Belmont Ave, Lake View, Chicago.
Evans, J. M., from Corpus Christi, Texas to E. de Zacatecas, San Pedro de Ocampo, Mexico.
Ewing, E. W., from Chicago to Spikard, Mo.
Fridus, S. L., from Ashland Boul. and Taylor St. to 661 W. 14th St., Chicago.
Geary, E. P., from 138 Whitaker to 820 Corbett St., Portland, Ore.
Guthrie, F. A., from Aledo to 716 1st St., La Salle.
Grivelly, H. F., from Norwood, Minn. to Hohenwald, Tenn.
Gant, S. G., from Kansas City, Mo. to 28 E. 47th St., New York City.
Hartung, C. J., from Wabash Ave. and 22d St. to 26th and Canal Sts. Chicago.
Holladay, F. S., from 42 Winder St., Detroit, Mich. to Los Gatos, Cal.
Hunt, F. W., from 100 State St. to Lexington Hotel, Chicago.
Kenefick, T. A., from Newport, R. I. to 29 W. 36th St., New York City.
Leavell, H. N., from Amissville, Va. to 1700 Preston St., Louisville, Ky
Massey, G. B., from 1036 to 1636 Walnut St., Philadelphia, Pa.
Norwood, F. H., from 5085 Wells Ave. to 4643 Brilliante St., St. Louis Mo.
Noble, T. B., from 13 W. Market to 19 W. Ohio St., Indianapolis, Ind.
Nottage, H. P., from 14 Stamford Ave, Providence, R. I. to Goshen, Mass
Peterman, H., from Chicago to Marshall, Texas.
Porter, Lieut. R. S., Asst.-Surgeon 31 Inf. U. S. Vol., from Chicago t Manila, P. I.
Pinault, N. J., from Minneapolis, Minn. to Pass Christian, Miss.
Parker, J. V., from LaSalle, Ill. to Saginaw, Mich.
Palvis, A. S., from March, S. D. to 725 120 St., Pullman Station, Chicag
Rowe, M., from Deal's Island to 1835 E Baltimore, Md.
Reynaud, L. T., from 135 Baronne to 1238 Josephine St., New Orleans, L
Rousch, F. L., from New Haven, W. Va. to Pomeroy, Ohio.
Simpson, L. B., from Pavonia to Marion, Ohio.
Sampson, E. S., from North Syracuse to Mexico, N. Y.
Smith, F. C., from Waterloo to Wesley, Iowa.
Scott, W. A., from Swanton, Ohio to Thomasville, Ala.
Simpson, W. B., from Sabethany, Texas to 1312 Canal St., New Orlean La.
Sholars, L. A., from Ruston to 2236 Reytania, New Orleans, La.
Sibley, R. B., from Clarksburg, W. Va. to Aspen, Colo.
Turner, E. W., from Hunter to 18 W. 4th Ave. Columbus, Ohio.
Vedeler, C., from Locust, Iowa to 618 S. 11th St., Denver, Colo.
Weeks, A., from Allegan, Mich. to U. S. Marine Hospital, Chicago.

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Original Articles.

GOITER.*

ANATOMY OF THE THYROID GLAND: PATHOLOGY AND TREATMENT OF GOITER.

BY FREDERICK C. SCHAEFER, M.D.

Professor of Surgery in Post-Graduate Hospital of Chicago; Surgeon
to Chicago and Post-Graduate Hospitals; Consulting Surgeon
to Mary Thompson Hospital and Illinois Charitable
Eye and Ear Infirmary, etc.

CHICAGO.

The thyroid gland is an outgrowth from the hypoblastic layer of the embryo forming a tube lined by epithelium, derived from the ventral buccopharyngeal wall. It consists originally of three parts, a central and two lateral portions, the mesial portion being formed by a diverticulum arising from the vicinity of the second branchial arch, while the lateral lobes are developed as diverticulæ on either side from the posterior portion of the fourth branchial arch connected with the fourth branchial cleft. The tongue—according to His—has its origin in two separate portions, an anterior and a posterior part, the former consisting of the point and body originating in the tuberculum impar situated in the floor of the mouth; the latter portion or base coming from two masses situated in close proximity to the second and third branchial arches. In due time the two separate parts meet along a V-shaped fold, and at the vertex of the V a deep depression is formed. This is recognized as the foramen cecum. Between the three outgrowths from which the tongue is derived a deep sinus exists, lined with epithelium derived from the hypoblastic lining of the pharynx, the progenitor of the thyroid gland. As the masses which form the tongue approach each other they cause the aforesaid sinus to be converted into a vesicle which maintains a communication with the surface of the tongue through the thyreoglossal duct, an unobliterated portion of the original sinus. Now the part destined to be the thyroid gland, in the process of growth sinks downward, and the thyreoglossal duct gradually grows longer until it finally forms a tube whose terminal opening is constant in the foramen cecum. This tube in some instances remains patulous to the hyoid body, and is the ductus lingualis. In a few instances the vesicle which is destined to form the middle lobe of the gland remains as a tube extending as high as the body of the hyoid bone—the ductus thyreoideus. According to Murray, the tube of the pharyngeal hypoblast, the thyreoglossal duct, is constantly pervious in lower animals, through which direct communication is maintained with the pharynx, and he cites as instances amphioxus and fishes; from this he draws the conclusion that the secretion of the gland is not injured by the gastric juices, therefore the inference was near that the product of the gland could pass through the stomach and exert its physiologic effect on the organism. He claims that the autogenetic and philogenetic history show that the gland, as we find it in man, is descended from a secreting gland which was originally provided with a duct through which the secretion passed into the pharynx just as the salivary secretion of the salivary glands still flows into the mouth, and that the ductless gland has lost its duct by the process of evolution. In tracing the farther growth of the gland, we find that the three separate portions become isolated from the hypoblast and soon form clusters of branching-cell cylinders which are divided by the ingrowth of connective tissue, supporting blood-vessels, nerves and lymphatics. The vesicles are lined by cylindrical columnar epithelium and filled with colloid substance. The colloid, according to Hürtle, is produced by the cells, in one of two ways: 1, it is formed in droplets in the cells and extruded into the alveolus; 2, whole cells break down and are converted into colloid. The cell may continue to secrete indefinitely. The exfoliated cell is soon replaced by another. Occasionally the secretion forms so rapidly as to distend the follicles and cause apparent tumefaction and pseudohypertrophy, which subsides as soon as the excessive secretion is absorbed. This would, in my judgment, explain the spontaneous disappearance of cure of some goiters by resolution. The alveoli and vesicles are surrounded by lymph spaces which communicate with the lymphatics. As there is no excretory duct present, it is fair to presume that the secretion is carried away either by the veins or lymphatics. That the lymphatics are the chief highways through which the colloid escapes was beautifully shown by Hürtle, who injected Berlin blue into the lymphatic spaces of the gland by intermittent pressure and discovered that the coloring material passed into the alveoli through the intercellular spaces; and frequently found the colloid stained lying partly in the alveoli, in the intercellular spaces, and continuous in the lymph spaces. In some instances the alveolar wall, he says, ruptures and allows the colloid to escape directly into the lymphatic spaces.

Praiseworthy and painstaking efforts have been made to analyze the constituents of the colloid material, by different chemists, but Bauman and Roos isolated what is recognized as the essential extract of the gland secretion, which they named thyroidin, it being composed of iodin in organic combination with proteid—.3 of 1 per cent. iodin. Bauman described it as a brown amorphous substance, not soluble in water, readily soluble in dilute alkaline fluid, easily precipitated from the solution by addition of acids. It contains considerable phosphorus. After having made many observations, he claims it has been positively demonstrated that the administration of thyroidin accomplishes everything that can be accomplished by thyroid therapy as introduced by Murray: 1.

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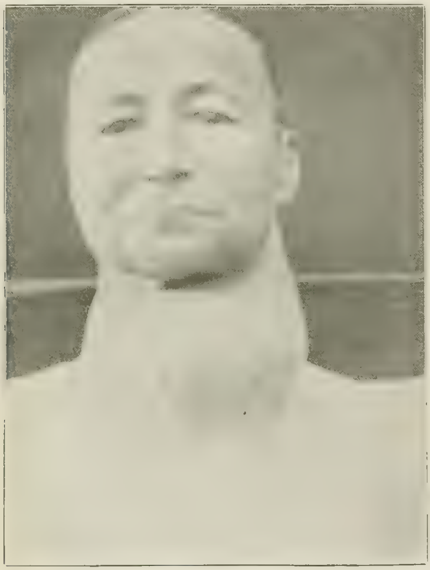
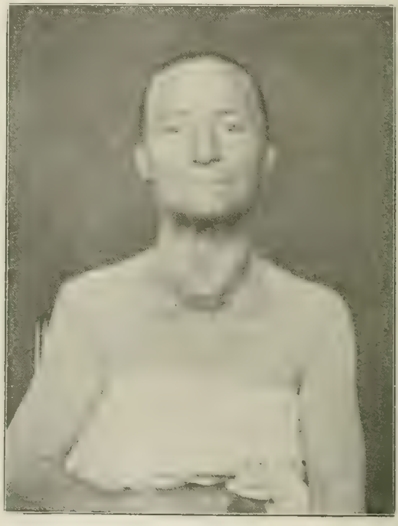
*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

It exerts a powerful influence on metabolism in man and lower animals. 2. It exerts lethal effects in large doses. 3. It influences the growth of goiter by diminishing its size. 4. It has a specific action on myxedema. His work has been confirmed by the observations of Lichtenstern, of Koeln, and also by Ewald, Kocher and others. This discovery by Bauman leads to accurate dosing, for he has shown by investigation in hundreds of sheep thyroids, that they vary greatly in the quantity of thyroidin they contain. Hence, by feeding the gland we can not give a uniform dose of our medicament.[1]

Pathology.—"Goiter formation apparently begins by a growth of processes of the normal glandular epithelium. The first clearly visible beginning of the nodular goiter consists of single processes of differentiated epithelium in the secondary lobules. These processes gradually supplant, metaplastically, the normal tissue of a secondary or even a primary lobule. The lobules thus change form as they increase in volume and supersede the surrounding tissue. Neighboring nodules changed in this way form multilocular goitrous nodules, either blending by a growth through the intervening septa or flattening where they come in contact. Finally the outer compressed lobules surround the central more vigorously growing ones like a shell. The metaplastic growth ends when the boundary of the primarily affected lobule is reached, growth then taking place by displacement of surrounding tissue. Diffuse goiter consists of a uniform proliferation in all the lobules. Nodular goiter arises through a variation in the vitality of neighboring parts. There exists a variety of intermediate forms."[2] In my own experience I have frequently found a marked increase of the connective tissue stroma, and also mucoid degeneration of connective tissue.



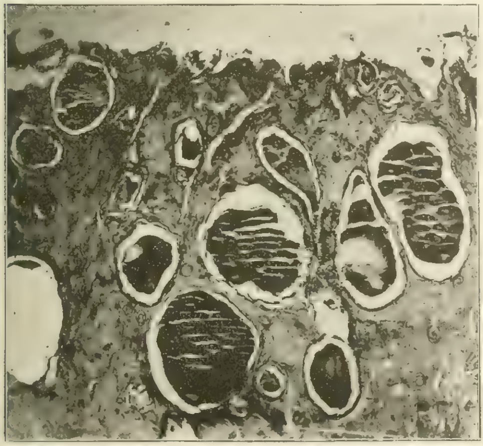
Case 4.—Before operation.



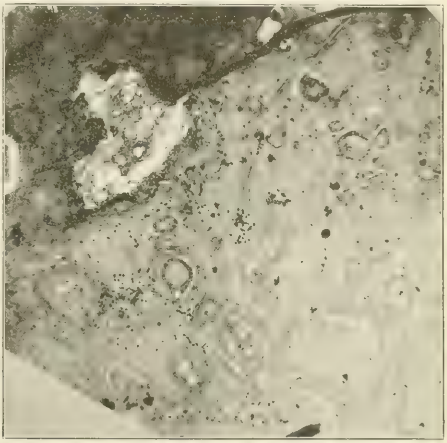
Case 4.—One week after operation.

Medical Treatment.—It would be superfluous for me to review the many remedies used in the treatment of goiter and its sequalæ. There are, however, two remedial agents which loom up so prominently before the profession that my paper would seem incomplete without referring to them: the product of the thyroid gland and the chemically pure iodin. The former is of recent introduction, the latter having been used empirically, locally and internally for many years. In 1883 Oliver[3] asserted that myxedema was caused by atrophy of the thyroid gland. In the same year Kocher, Riverden and Juillard called attention to the fact that myxedema followed the complete extirpation of this gland in man, and that the disease corresponded to the idiopathic myxedema in symptoms and pathology. Their cases presented swelling and dryness of the skin of the extremities and face, loss of hair, mental hebetude, loss of muscular strength, anemia and subnormal temperature. They found mucin in the subcutaneous connective tissue spaces. Schiff[4], in 1884, taking the hint from these reports, extirpated entire glands in some cats and dogs, and portions of the gland in others. In the case of those from which the entire gland was removed myxedema promptly followed. Reasoning that the pathologic condition must have been caused by the absence of the glandular secretion, he transplanted the thyroid gland of sheep into the peritoneum of some and into the subcutaneous tissue of others of those from which the entire glandular structure had been removed, and soon found improvement in the symptoms, even to complete recovery. The improvement was not, however, permanent. Horsley[5], in 1889, profited by the work of Schiff and transplanted sheep's glands under the skin of man, obtaining beneficial results. About the same time H. Bicher[6] transplanted a sheep's gland into the peritoneum of man. Horsley's ideas were carried out by Lanelangue, Lagroux, Mecklin and MacPherson[7]. Bitterwirt Serano[8], introduced the gland subcutaneously over the thorax. He attributed the good effects to the absorption of the contents of the gland and not to the functional activity of the transplanted organic tissue, and demonstrated that the gland atrophied while its contents were absorbed, and at a later period the symptoms again appeared. This announcement naturally led to the next most practical suggestion of Murray[9], viz., to administer the gland secretion by hypodermic injection. Following up this thought he made a glycerin extract and used it in a number of cases with the most brilliant success. The work of evolution continued. Next came the advice of Hector, Mackenzie and Fox[10], to feed the patients with the fresh raw glands of the sheep. They administered two glands a week to a woman aged 49, from January to September, causing disappearance of the symptoms. Creswell Baker[11] reported the treatment of a severe case in a man 53 years of age. The exhibition of the raw material caused nausea. A soup was therefore made with the gland. The patient consumed two glands a week thus cooked, from August to January. He complained of headache while taking the remedy, but the myxedema disappeared. Soon afterward White[12] of England prepared a powder from the sheep's thyroids, a 3-grain tablet of which he said represented one-sixth of the active principle of the sheep's gland. Still later, 1894, Bauman and Roos extracted the essential part of the glandular secretion, as already mentioned, thyroidin. This is put up in tablets and is being extensively used abroad[13] not only for the cure of myxedema but also to prevent its following the extirpation of the entire gland for goiter or other diseased conditions of the thyroid, and latterly also for the cure of goiter. Stabel[14] reported 85 goiters treated with thyroid gland and thyroidin, resulting in 8 per cent. recovery and 92 per cent. improved in various degrees; 25 were treated by feeding the gland tissue —one-sixth of a gland twice a week—and the remainder took thyroidin. In a general way the results were about the same, although he could regulate the dosage better by the use of thyroidin. He found that in all cases the circumference of the neck diminished slightly after two weeks' treatment. The improvement continued through a course of ten weeks, quite steadily; in some slowly, in others more rapidly. The treatment was of most service in the colloid and next in the fibrous variety. There was only one cystic goiter in the list, and this one made slight improvement. He called special attention to one case, a woman aged 50 years, who had had a third child at the age of 17 years. She claimed to have always enjoyed good health until Christmas, 1894, when she noticed a swelling in her neck, which rapidly increased; her breathing became short, she found it hard to climb stairs, her heart palpitated easily, while her strength rapidly failed. April 22, 1895, the clinical report says: She has a large diffuse goiter extending to the posterior border of sternomastoid muscles laterally, and from upper border of the thyroid cartilage above to the border of the sternum below; pulse 80; lips thick; mucosa rolled outward; dyspnea marked; edema of the head, face, neck and all extremities; movements of arms and legs embarrassed by the swelling; mind acts slowly, answers questions slowly, mental hebetude very noticeable; has little muscular strength and can not work; skin is dry and harsh; hair growing thin; circumference of the neck, 42 cm.

She was fed one-sixth of a sheep's thyroid three times a week. She complained of headache after the third dose. In six weeks all symptoms disappeared. Her strength improved and she went to work. Her lips became normal, all swelling had disappeared and she looked ten years younger. Several times the treatment was omitted six weeks when the symptoms again appeared. She now takes thyroidin tablets regularly and keeps in good health and spirits with a wonderful improvement in mental and physical activity.



Case 4.—Fibroid Goiter with large alveoli filled without colloid.



Case 4.—Showing epithelial lining of alveoli. Fibroid Goiter.

Bruns[15] of Tubingen reported eight cases with five recoveries, and Kocher claims that of the cases presented at his clinics 90 per cent. are considered medical cases and were treated with thyroidin until lately. Iodin at the present time is being used more frequently than heretofore for goiter. He is inclined to regard iodin as its essential remedy. In cases of myxedema thyroidin is administered. As to the method of its action he refers to one of his cases, to whom it had been given some time before the gland was extirpated. The gland was examined by Professor Langhans, who reported: "Can not differentiate blood-vessels or lymphatics. In the broadest septa only can vessels and connective tissue be recognized. Alveoli of different sizes are distinguishable; epithelium cuboid or flattened. Many alveoli are about two-thirds filled with colloid, some containing only a drop of colloid clinging to their sides or lying loosely within. In the large alveoli mucin is present. Some contain small particles of apparently degenerated colloid."

It has been my opinion for some years past that iodin alone was the essential medical remedy for the removal of such goiters as could be influenced by medicine, and with this idea in mind I have, during the last four years, treated three-fifths of my cases with iodin, and two-fifths with the thyroid preparation, and have found in thirty thus treated that the patients who received the iodin improved more rapidly than the others, and during the last three months my patients have been taking iodin, only accompanied by tonics as required. Few of them can take iodin steadily for many weeks, without showing evidence of weakness; slight anemia is likely to follow, with increased rapidity of the heart's action; often slight dyspnea and headache with diminution of bodily weight. I therefore always weigh my patients when the treatment is commenced, and frequently afterward. The prescription is as follows:

Iodinii (crystals)	gr. ii
Pot. iodid	gr. iv
Alcoholis	ʒi
Syr. simplicis	ʒi
Aquæ destil	℥ii

Administer a teaspoonful in a wineglass of water, one hour after each mealtime. After about two weeks, sometimes from the beginning, an iron tonic is given; Blaud's pill, ferri subcarbonate, or tincture of iron, and if the patients are weakening rapidly, strychnin combined with calisaya and iron, the iodin being discontinued for a week or two at a time. After three weeks there is usually a perceptible difference in the size of the goiter. In six months many of the goiters disappear, others are reduced to from one-half to one-eighth their original size. Many patients breathe better and their voices improve. Some do not yield to the treatment. Three months' trial is sufficient in such cases. If the goiter is cystic, or if fibrosis is extensive and the goiter interferes with the voice, respiration or heart's action, or if we have a large goiter accompanying Graves' disease to deal with, and no contraindication exists, I advise operation. We have the choice of the following mentioned methods and will choose according to the case in hand and our judgment as to which is the best operation to resort to, viz.: 1. Interstitial injections of iodin. 2. Aspiration of cyst followed by injections of iodin, or various irritating substances. 3. Ligature of the large blood-vessels supplying the gland. 4. Exothyropexy. 5. Removal of the superior middle and inferior cervical ganglia of the sympathetic. 6. Extirpation. 7. Enucleation.

Interstitial Injections of Iodin.—It may be objected that this method should not be dignified with the name of operation. I, however, hold that it is one of the most dangerous procedures, leading to more serious results, proving more frequently fatal than other operative methods. This should certainly cause us to look on it as a procedure not to be underestimated as a dangerous operation. Hayman[16] reported a list of sixteen cases of death following this procedure. The fatality was caused by thrombosis and multiple emboli.

Aspiration of Cysts and Injection of Iodin, Etc.—This method has been resorted to by prominent surgeons the world over. Statistics given from Brun's and Bilroth's[17] clinics show 70 per cent. cure, with a mortality of 2 per cent. The disadvantages are: 1, anxious symptoms during the first few days; 2, suppuration; 3, slow shrinkage; 4, occasional dangerous and even fatal asphyxia. The contraindications given for injections are: 1, paralysis of the vocal cord; 2, great flattening of the trachea, which does not improve after evacuating the cyst; 3, multilocular cysts; 4, bleeding cysts; 5, those which do not collapse after puncture. In all such incision and drainage was resorted to. This latter plan I urgently object to except in rare instances, when enucleation is impossible—on account of the danger of infection and its possible sequelæ, the prolonging of the healing process and the inconvenience to the patient. Enucleation of the cyst in the absence of inflammation in many cases is a comparatively simple procedure, is radical, and leads to prompt cure. It is therefore preferable when the foregoing contraindications exist to the iodin or other injections. I should certainly advise aspiration in all cases in which respiration is severely interfered with and instantaneous relief is demanded to save the patient's life; also in simple small cysts and during the process of enucleation if the symptom of asphyxiation was pronounced, or if the cyst was too large to pass through the external incision. Cysts are generally easily shelled out, especially in the absence of the inflammatory adhesions.

Ligature of the Blood-vessels.—This operation is not resorted to very often as a primary operation, for the reason that the other operations are considered more serviceable. In case of inflammatory and very vascular goiters with dense adhesions, it would certainly appear to be a legitimate operation. Its field for application has, however, become much contracted of late.

Exothyropexy.—This was introduced by Jaboulay. It consists of cutting into the capsule of the goiter, exposing the latter to the air by stitching it to the margins of the external wound. He[18] reported fourteen cases of complete recovery, and considers the operation of value in cases surrounded by a network of vessels of large size, or in cases in which the growth is in dangerous relationship with the trachea and mediastinum. He attributes the cure to trophic influences, and partly to blood and lymph changes, and has noticed that the surface of the gland becomes very moist, owing to the exudation of its secretion. He thinks that this exerts a wholesome influence on Basedow's disease. The chief objection to this operation is the danger of infection, as the goiter is exposed to the air and it is necessary to keep the wound open for days.

Total Resection of Superior Middle and Inferior Cervical Ganglia.—Dr. Thomas Jonnecso, in Bucharest, Aug. 17, 1896, removed the superior and middle ganglia on both sides in a case of Basedow's disease. The exophthalmia disappeared, the goiter atrophied and the patient improved to such an extent as to encourage him to repeat the operation in other cases. He operated on two others, removing the inferior ganglia in addition to the others, on both sides, with the same results. The operation was also undertaken by him for epilepsy. The skin incision is made along the posterior border of the sternocleidomastoid muscle, extending from the mastoid process to the middle of the clavicle. The platysma, external jugular veins, and the branches of the superficial cervical plexus are severed, the deeper cervical fascia is next cut through; the sternocleidomastoid muscle with omohyoid and sheath containing the deep vessels and nerves are drawn inward with retractors. The sympathetic nerve filaments are searched for in the middle portion of the wound behind the vessel sheath, close to the phrenic nerve. The nerves are traced to the ganglia and the latter excised. The most difficult part is the removal of the inferior ganglion.

By far the most important, most frequently resorted to and most thoroughly established operations are extirpation and enucleation. The operations are being done more and more under local anesthesia by Kocher, Shede, Keene and others. Kocher especially extols the local anesthetic and claims to have used it in the majority of his last series of 450 cases. The skin incision is entirely painless—using cocain or Schleich's No. 2 solution—the unpleasant experience to the patient being the peculiar sensation of pressure from the manipulation of the surgeon's fingers and instruments. There is no severe pain produced. The advantages of local anesthesia are: 1, breathing is easier; 2, there is less venous congestion, consequently less hemorrhage; 3, the patient can phonate while the operator is working near the recurrent laryngeal nerve—a source of great comfort to the surgeon as it aids in preventing damage to the nerve. It is of especial advantage when operating in Basedow's disease and tracheal stenosis. In the latter condition Kocher said he had often found it necessary, in his first 1000 operative cases, to do tracheotomy after general anesthesia, a procedure which presents great difficulties when the goiter is lodged in front of the trachea and behind the sternum. In fact, in some cases it is impossible to do tracheotomy before the tumor is lifted from its bed, and then the occasion for entering the trachea seldom exists as the impediment is removed. My first serious case was of this variety, in a woman 38 years old. All three lobes were greatly enlarged. The central lobe was the size of a hen's egg, and its lower third sank deeply behind the sternum. The patient had taken a few whiffs of chloroform when respiration and heart's action ceased almost simultaneously. The lips were deeply cyanosed. There was no possibility of reaching the trachea to do a tracheotomy, and I felt that my patient was gone. The veins of her neck were all enormously distended before the anesthetic was administered, but now stood out like large cords. Realizing that no time was to be lost, I peremptorily ordered my assistants to drop the patient's head below the end of the table and practice artificial respiration while, with great rapidity, I drew my knife across the tumor in Kocher's line, regardless of vessels, speedily opened the capsule and with vulsellum forceps and finger lifted the hard nodule out of its shell, thus removing the constriction of the trachea. While my assistants continued the work of resuscitation I quickly seized several veins with forceps to prevent the ingress of air. After a few moments the patient inspired voluntarily.

In removing the goiter it is considered good practice, as suggested by Kocher, not to cut the sternocleidomastoid, sternohyoid and sternothyroid muscles, unless the tumor is so large and hard that it can not be lifted out of its bed through the opening made by retracting these muscles. In this case it is advisable to sever them only near their upper attachment, so as to preserve their nerve supply intact. The omohyoid need not be cut. By taking these precautions we prevent the unsightly deformity of a deep depression. The third important step is the luxation of the tumor. It is also important to tie all accessory veins before cutting into the capsule. In lifting the tumor, it is carried forward and turned to the opposite side; this makes the ligaturing of the vessels easier, and the pulsations of the inferior thyroid artery can be felt with the finger; it can be easily isolated from the venæ thyroidæ interna descending from the lower pole of the gland. The artery is to be tied between two ligatures.

Enucleation.—In enucleating, Kocher claims it an improvement, after cutting through the capsule, to expose the isthmus and ligate the venæ communicantes superior and inferior at the upper and lower borders and also the branches of the superior thyroid arteries to the isthmus and pyramidal lobe. When the isthmus is thick and large he advises crushing it with strong forceps, to force out any colloid present; this simplifies ligating and also prevents stump necrosis. In all clean cases of excision and enucleation, salt water is applied to the wound with gauze sponges. In septic cases antiseptic solutions are used and secondary stitching is done.

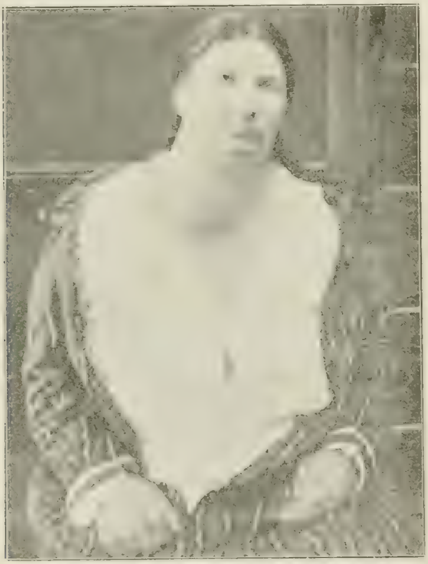
I have seven cases to report at this time, six of them representing the past year's operating work for goiter, and one of special interest is presented with the others, viz., a case of Grave's disease with a large goiter and exopthalmus.

Case 1.—Miss B., aged 18 years, of medium height and weight, has been afflicted with a goiter for eight years. Her family history is good. She presented herself at my clinic two and a half years ago, with exophthalmos, showing von Græfe and Stelwag's symptoms. Her chest was then contracted and concave, she was round shouldered, the chest circumference above the nipple line was 30 inches in expiration, 32 in inspiration, and the pulse 140. She had slight tetanic tremors of the legs and arms. Vision was R. E. 5/20; L. E. 6/20. She had to hold a light between her eyes and the book when reading, and even then the letters appeared indistinct. The fundus was congested and the veins greatly distended. She said that she was often obliged to get out of bed at night to struggle for breath, and could not lie flat in bed. The goiter was very large and occupied both lobes and isthmus. The right one involved the entire right lobe, the left one being much smaller. The larger tumor extended high on the neck, above the thyroid cartilage. Its lower border was behind the sternum and could not be felt even when her neck was extended to the utmost.

As she had run the gauntlet of nearly every dispensary in Chicago and had been treated by over thirty doctors, all representative men, and had not improved, my advice to her was to have the goiter removed. She consented and I proceeded to operate, assisted by Drs. D. Eisendrath, F. S. Walls and A. J. Brislen. Chloroform was administered and by careful dissection I succeeded in enucleating and partly extirpating the right lobe. It was reniform in shape, measuring 6 by 2½ by 2 inches. Its lower end dipped an inch and a half below the upper border of the sternum. The trachea was flattened and an accessory lobe extended from the main mass behind the trachea so that the tracheal tube was clamped between the large tumor and its accessory portion. The goiter was of the fibrous type, fibrosis having been exaggerated.

The patient walked out of the hospital on the fourth day. Her improvement was simply marvelous. In eight weeks the circumference of the chest increased three inches, and she walked almost erect; her pulse rate was 96. The nervous symptoms had all disappeared. The exopthalmia was improved, and she could read with the light behind her. In removing the growth the greater portion had to be extirpated, but at the posterior part, where it was in contact with the recurrent laryngeal nerve, the capsule was shelled away from the goiter and cut off in order to protect the nerve from injury.

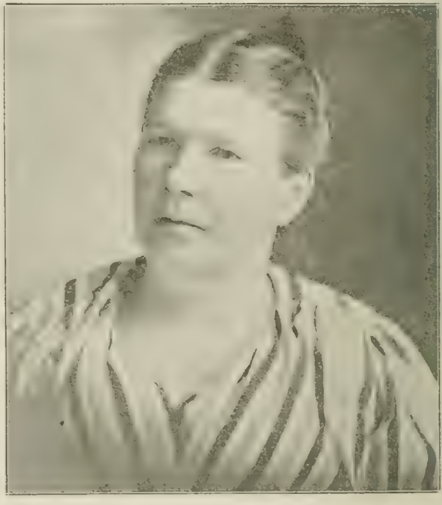
Case 2.—A male, aged 48 years, of medium size, weight 140 pounds, has had a swelling at the root of the neck for eight years. At the time of examination there were three large nodules projecting from the thyroid gland, one from the middle and two from the right lobe. They all felt as hard as bone, and one might have thought they had undergone ossification. The central node extended downward into the thorax. Its lower portion was wedged firmly between the sternum and trachea. The patient breathed with difficulty; his voice was stridulous and husky. He said he felt as if there was a rope around his neck, ready to choke him. At different times during the past six months it seemed to him that he was about to strangle. It takes him a long time to ascend a flight of stairs, as he has to rest frequently in the ascent. His hair is prematurely gray, his vessels atheromatous. He has been subject to rheumatism for about ten years, and several times had acute attacks which confined him to his bed from two to six weeks. His joints are not supple, and his movements are inelastic, while he is feeble for a man of his years. The urine is normal, sp. gr. 1020.



Case 7.—Before operation.

I advised removal of the goiter. A week later, after having visited other dispensaries and surgeons, he returned to me for operation. He was too nervous to submit to the knife under local anesthesia, so we chloroformed him, and I made Kocher's incision low down, tied the veins double and cut between the ligatures. The sternohyoid and sternothyroid muscles were just exposed when our patient suddenly became cyanotic and stopped breathing. The heart ceased beating almost simultaneously. I hastily opened the capsule and lifted the tumor from behind the sternum while my assistants, Drs. D. Rogers and A. J. Brislen, practiced artificial respiration. Very soon the lips became a shade paler, with return of the radial pulse, and I continued removing the three nodules without further anesthesia. The central tumor had to be excised, as it was firmly adherent to the capsule. The trachea was flattened almost into a ribbon, and did not assume its normal shape at once after the operation. We had considerable difficulty in controlling deep hemorrhage. One small artery lay in such close contact with the trachea that it could not be safely ligatured. I seized it with artery forceps parallel with the tube; the forceps was left in the wound thirty-six hours. The patient left his bed on the third day, made a prompt recovery and was discharged cured in two weeks.

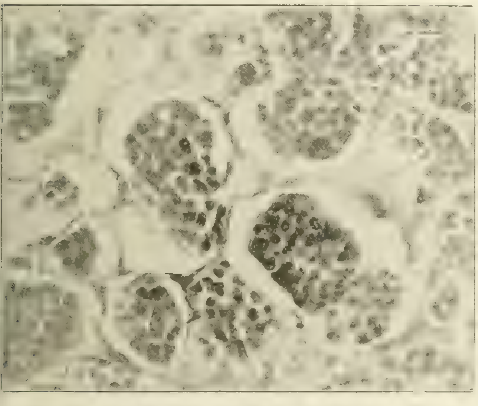
Case 3.—A male, aged 24 years, weight 160 pounds, and height 5 feet 8 inches, of nervous temperament, a piano tuner, single, and member of a church choir, and with perfect family history, had never been ill. Three years ago his neck began to swell at its middle lower portion, and has steadily increased. During the first six months it has interfered with his voice, causing it to "break" while singing. He is hoarse at other times, and occasionally his breathing is embarrassed. He wanted an operation done a year ago, but could not summon courage to undergo the ordeal. I chloroformed him and enucleated a cyst three inches in diameter, filled with colloid and containing crystals of cholesterin. The cyst grew from the right lobe upward; its wall was one-eighth inch thick. The patient walked about the hospital on the fourth day, and was discharged cured on the thirteenth day.



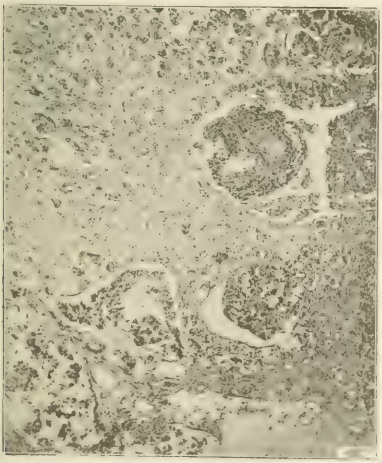
Case 7.—Six months after operation.

Case 4.—A woman aged 59 years, Bavarian, of medium size and weighing 120 pounds, had a goiter from the age of 11 years. She says she has not been able to bend her neck for forty years. During the last year she has noticed a rapid increase in the growth. The superficial veins of the neck are large and tortuous, stand out prominently, like cords one-fourth inch thick. A large plexus of these covers the surfaces of the tumors, extending downward nearly two inches over the sternum, in the form of a V. The tumors are extremely dense and hard. One, as large as my two fists, is on the left side, extending upward; several large nodules are on this side and still others beneath and between them. The voice is stridulous and she complains of great weakness and a constant fear of imaginary impending danger. Last year I treated her for a Colles fracture, and she was a long time recovering the use of the arm on account of a tendovaginitis and rigidity of the muscles which followed the injury. Operation was done under chloroform—a very bloody enucleation. The patient left the table with a strong pulse, went home well on the seventh day. Her neck is now quite flexible. (See illustration, Case 4.)

Case 5.—A woman of 19 years had a hard goiter consisting of three large nodules. The central one at the root of the neck dipped down behind the sternum. It was about the size of a large chestnut, interfered with respiration and made her excessively nervous. She readily consented to operation and I removed the nodules by enucleation. She walked to the street-car three hours after the operation. The wound healed promptly by first intention.



Case 7 Alveoli enlarged: cells also greatly magnified



Case 7 Colloid Goiter. Smooth spots occasioned by mucoid degeneration of connective tissue. Numerous small cells can be seen filling alveolar spaces. In some spaces the cells have partly degenerated into colloid.

Case 6.—A woman of 43 years presented a cyst three inches in diameter, occupying the central portion of the neck, its lower portion wedged between the trachea and sternum. It was easily enucleated, but we had considerable difficulty in controlling the hemorrhage. The deep veins were unusually large and tortuous. They were tied double and severed between the ligature. She went home cured on the twelfth day.

Case 7.—A woman of 58 years, presented a large formidable goiter on the right side of the neck, so large that she was compelled to constantly carry her chin in elevation. The goiter first appeared during her thirtieth year. At the time of operation the larynx was pressed over an inch to the left of the median line. She has not been able to lie flat for ten years, always had her head and shoulders elevated with pillows. The goiter was as large as my two fists after it was enucleated. (See illustration 7.) She is now perfectly well and her neck does not show that she ever had a goiter.

I have microscopic sections of Cases 4 and 7, for which I am indebted to Dr. Fred Noyes, professor of pathology in Northwestern Dental School. They are beautiful preparations and show the transitional stages of the epithelial cells before they are converted into colloid. (See illustrations.)' In many alveoli the epithelial lining has been completely destroyed by pressure necrosis and colloid degeneration. In some alveoli and tubes the epithelial lining can still be seen. Case 4 shows the extensive fibrosis and large alveolar spaces filled with colloid. One we may safely call colloid, and the other fibroid, goiter. All but one of these patients were anesthetized with chloroform. One only was willing to submit to operation under local anesthesia. Hereafter I shall insist on using a local anesthetic at least in the severe cases. Two of these patients had a very close call and in view of the experience of such operators as Kocher, Shede and others, with local anesthesia, we are not only justified in urging it on our patients but it becomes an imperative duty so to do.

BIBLIOGRAPHY

1. Zeitsch. Phys. u Chem. xxi, 1896 p. 81.
2. Schmidt: Jahrbücher, Jan. 1, 1894.
3. British Med. Jour., 1883, p. 502
4. Archives Exp. Path., Nov. 18, 1884, p. 25.
5. British Med. Jour., Feb. 5, 1889.
6. Volkman Kl. Vort., Nov. 30, 1887.
7. British Med. Jour., March, 1892.
8. Sem. Med., Aug. 18, 1890.
9. British Med. Jour., October, 1891.
10. Ibid, October, 1892.
11. Ibid, June 17, 1893.
12. Ibid, Feb. 11, 1893.
13. Deutsch. Med. Woch., Nov. 4, 1894, p. 807.
14. Berl. Cb. Woch., Feb. 3, 1896.
15. Correspbl. Sweiz. Aerz., October, 1894.
16. Med. News, Nov. 22, 1889.
17. Wien. Med. Woch., Nov. 15, 1890.
18. Med. News, February, 1894, May, 1895.

DISCUSSION.

Dr. C. F. Wahrer, Fort Madison, Iowa—In treating goiter cases, I have been in the habit of using the desiccated thyreoid glands as well as the cataphoric administration of potassium iodid, and the results have been, in the light of our medical literature on these cases, quite successful. From 20 to 30 grains of thyreoids in four or five doses daily, intermitted for a time, when there is headache due to the medicine, is what I usually give per os, and daily or triweekly sitting with the cataphoric exhibition for five minutes of potassium iodid, has been usually successful in from six weeks to as many months in removing some very large goiters. In connection with this I desire to relate one remarkable case of a young lady 22 years of age, a feeble woman of phthisical history, who had a unilateral right-sided goiter as large as a hen's egg. I used the treatment just related, namely, five-grain doses of thyreoids five times a day, and the galvanic battery with cataphoric use of iodid. Of this last she got but six sittings in five weeks, as she did not come to the office as directed; yet this large mass disappeared entirely in the fifth week. I would like to ask how to account for the rapid disappearance of this large mass in so short a time with such little medication and few sittings of electricity? This was sixteen months ago, and there is not the slightest recurrence. There is also a general improvement in health, regulation and increase of menses and nutrition, as well as womanly development.

Dr. A. H. Levings, Milwaukee, Wis.—There are a few points that I desire to make in the discussion of this paper, and one is that any one or all of the tissues normally making up the thyroid may be so increased in number as to constitute a goiter. Thus we have a fibrous goiter from an increase of the fibrous tissue, or a vascular goiter from an increase in the number and size of the vessels, both arterial and venous, or a parenchymatous goiter when all the tissues have undergone hyperplasia, or a cystic goiter when the number and size of the follicles have been increased and their walls more or less absorbed.

The thyroid extract treatment is applicable only, and the iodin treatment is of the greatest benefit, in parenchymatous goiters. My observation and experience have been that the ligation of the four thyroid arteries is of no value as a curative treatment. I have frequently seen this operation in Billroth's clinic and have performed it myself, and, while, immediately after the ligation in vascular goiters, all pulsation ceases and you can squeeze the blood out of the goiter as you would water out of a sponge, and you are possessed of the belief that you have permanently cured the goiter, nevertheless after a few weeks the circulation will gradually return and in a few months the condition is as bad, or nearly as bad, as before the operation.

In regard to the control of hemorrhage: there should be little or no hemorrhage in the removal of a goiter if it is properly done. There are three cardinal principles which are of the greatest importance, and which should always be observed in the removal of a goiter. The first is, make a large incision so as to freely expose the gland to be removed—through a large incision you can control or prevent hemorrhage, avoid complication and do your work with greater ease and very much more quickly. The second is, be sure you are down to the true capsule of the gland before you attempt to enucleate. The planes of fascia which cover the capsule can be picked up with toothed forceps and should be divided down to the capsule, which can not be picked up and which is a part of the gland, and in which course a great many veins of considerable size. Perhaps the greatest mistake of young operators is that they do not recognize this principle, do not reach the surface of the gland, and in their attempts to enucleate go wandering hopelessly about in the connective-tissue planes outside the capsule. The third cardinal principle is, that after you have reached the capsule the gland should be shelled out with the finger and no tissue cut that has not first been double ligated. This last principle was insisted on by Billroth, and if strictly adhered to will almost completely prevent the loss of blood.

Dr. F. C. Schaefer—In reply to the first speaker's question, I should say that the electrical application stimulated absorption. As to ligating the larger vessels in Dr. Leving's own case, it appears that the ligature did not bring about a permanent cure. While advocating enucleation and excision, I do not oppose ligature or any of the other operations, with the exception of the removal of the ganglia of the sympathetic, the value of which is not established and is somewhat doubtful. I did not go into a classification of goiters, for lack of time.

PREVENTION AND TREATMENT OF CANCER OF THE UTERUS.*

BY A. LAPTHORN SMITH, B.A., M.D., M.R.C.S., Eng.

MONTREAL, P. Q.

It takes a long time to get rid of an idea which has been handed down to us for many generations, and which has grown up with us from our earliest years of professional knowledge. Two of the most striking instances of the tenacity with which traditions cling to us are the belief in the heredity of consumption and of cancer. Notwithstanding that every physician can remember cases in his own practice, of both these diseases occurring in patients whose fathers, mothers, grandfathers and grandmothers were absolutely free from any cancerous or tubercular taint, still the constant assertion of its heredity by the insurance companies and the text-books has kept us from seeing what has been evident to many of the laity during the last twenty years, that these diseases are not hereditary, but that they ar on the contrary among the most contagious known.

The writer has endeavored to look at this importar question with an unbiased mind, with the result tha in his experience of cancer cases more than half of ther were absolutely free from any family history of it fo three generations back. Cancer of the uterus has bee proved by numerous experiments to be a contagiou disease, probably due to a microbe which does not flou ish on healthy tissues, but which luxuriates on tissu of low vitality, such as cicatrices, or on women whos vitality is below par. If the writer had any doub on the question of its non-heredity—which he has not— a case like the following would almost alone suffice convince him.

About ten years ago a woman 60 years of age, died cancer of the uterus. Neither her mother nor he grandmother had had any sign of it. Her three daug ters, all married and the mothers of families, hav passed the age of forty, without showing any signs of i But the nurse who attended their mother, and was i no way related, but on the contrary a perfect strange subsequently contracted the disease and died. Sinc then the writer has seen two other cases, almost simila in which the nurse and not the daughter has cor tracted the disease.

The awful but convincing experiment of removin a piece of cancer of the breast and inserting it under th skin of a healthy woman who was subsequently a fected with the disease and for which a noted Par surgeon was very properly dismissed from his positior need only be referred to in passing.

The Prevention of Cancer.—Is cancer of the uteru preventable? The writer firmly believes it is. If w believe, as Emmet has conclusively proved, that cance of the cervix almost always begins in the cicatricia tissue in the angle of a laceration, then by removing th cicatricial tissue and repairing the laceration, we woul put a stop to this dreadful disease, at least so far the cervix uteri is concerned. And this is just wha has happened in the author's own experience. He ha made it his practice at his clinics and hospitals to r pair every lacerated cervix that comes before him, wit the result that out of five thousand gynecologic case of which he has a complete history, there are at preser less than twenty-five of marked laceration of the cervi remaining unrepaired. The result is most striking: i stead of having two or three cases a month, of cancer the uterus, as he had ten years ago, he now only se three or four in a whole year. Since writing this pap he has seen the same observation made by other write in America, who also attribute the great falling off cases of cancer of the uterus to the widespread beli in the importance of having all lacerations of the cerv uteri repaired early, held by the majority of the gener practitioners all over this continent. On glancing ov the medical journals of European countries, on t contrary, we see it constantly stated that cancer of t uterus is steadily increasing, which is only what might expect where there are thousands of physicia who have never heard of the immortal Emmett or his life-saving operation.

So much and so briefly for the soil on which t cancer microbe grows; now for the microbe itself. Su posing that the disease is, as the writer believes it, o of the most contagious when planted on the proper so do physicians and nurses take sufficient precautions disinfect their hands after touching a cancerous ient? In the pre-antiseptic days the writer has seen nore than one great surgeon go from one patient to nother with no other cleansing of the examining finger han wiping it on a towel which he carried in his hand. Indeed, it is said, and it is quite probable, that a royal visitor to one of the great London hospitals, on inquiring from the patients the nature of their disease and whether they had any complaints to make, was told by he first patient that he had a cancer of the rectum, and by the second that he had chancres; these two had no fault to find with their treatment, but on asking the same question of the third patient he replied hat he had some trouble in his throat, and he complained that the attending physician, after examining he first and second patients, would, without washing his hands, examine his mouth. Just as we are horrified now when we think of the whole families we have allowed to be slaughtered by keeping a consumptive member of it in the house without any precautions toward destroying the germs, so will we some day realize our great responsibility in conveying or allowing to be conveyed the contagion of cancer from one patient to another. When its contagiousness becomes more fully recognized it may yet be possible to stamp it out by solating the patient. When, on the one hand, women are taught that they are risking their lives by allowing a lacerated cervix to go unrepaired and, on the other hand, all those who have cancer of the cervix have it removed at a much earlier date, thus diminishing the number of centers of contagion, cancer of the cervix will in all probability become one of the extinct forms of disease.

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*Presented to the Section on Obstetrics and Diseases of Women, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Its Treatment.—At the outset it must be distinctly understood that the disease is in the beginning an entirely local one. In one of the writer's cases, in which vaginal hysterectomy was performed, the microscopic examination demonstrated that the cancer cells were limited to an area of less than half a cubic centimeter. If the disease were always detected thus early, while still limited to the angle of the tear or to the mucous membrane of the uterus, total extirpation would in most cases be followed by cure. Unfortunately the majority of these women do not consult their family physician during this early stage; while too often, in the cases in which he is consulted in good time, precious weeks and months are lost in cauterizing it instead of sending the patient at once to a specialist for vaginal hysterectomy. For one or other of the above reasons the patient reaches the latter in the majority of cases too late to render vaginal hysterectomy either possible, or at any rate of much use. One widespread and potent factor in causing this delay is the prevalent idea that irregular hemorrhages after the menopause has taken place are a sign of returning youth. If the one hundred thousand physicians of this continent would each undertake to instruct one hundred and fifty women on this point and to make them understand that profuse and irregular hemorrhages at the change of life are not natural but, on the contrary, constitute one of the earliest and strongest symptoms of cancer, then vaginal hysterectomy would be performed much earlier and the results would improve in proportion. It is also important to counteract and contradict the general opinion that the case is utterly hopeless from the beginning in every case. As a matter of fact, it is only the delay which makes the case hopeless. Provided that the organ is freely movable, even if the disease has invaded the whole of it, vaginal hysterectomy with ligatures gives good results. If a little less movable, the clamp method is more feasible. Olshausen's double curved needle, which he calls an "unterbindungs" needle, is a great help in passing the ligatures in cases in which it is a little difficult to draw the uterus down. If firmly fixed and the disease has extended to the broad ligament, a thorough curetting and the application of pure carbolic acid freely to the mucous membrane lining the uterus will retard the progress of the disease and add greatly to the woman's comfort. This may be followed by a Schroeder's amputation of the cervix, but before closing up the flaps it is well to sear them lightly with the cautery in order to destroy the microbes. This has prolonged life from two to five years, and in one case the woman has since been confined twice, and is still alive. In the writer's opinion it is a great mistake to remove the uterus when the broad ligaments are affected, as the disease only progresses more rapidly than if left alone. Such a case came under the writer's notice while this paper was being written. As the broad ligaments were clearly involved, I very thoroughly curetted, with great benefit. The hemorrhage ceased and there was no more bad-smelling discharge; the mild sepsis was ended and the patient's appetite and strength rapidly improved. She was strongly advised not to let any one attempt to remove the uterus, but in spite of this, after trying three other gynecologists who refused, she found a fourth, who consented, and who removed the uterus. The result has been just what was predicted, namely, the disease is in full blast in the stump at the roof of the vagina and is bleeding and discharging freely, and she is rapidly going down hill. With regard to the operation advocated by Polk and others, to tie the internal iliac arteries and then remove the uterus, and to dissect out the lymphatic glands, while the operation is quite feasible with the help of the Trendelenburg posture, yet, judging from the writer's experience, it does not save the patient, for in cases in which the broad ligament and pelvic glands are infected, the disease has become constitutional and the patient dies sooner than if we left her alone.

Our only hope, therefore, lies first, in prevention, by repairing all the lacerated cervices, and second in cure by early diagnosis and removal of all the diseased area.

An important point which should be carefully observed is that all cut surfaces should be thoroughly washed before completing the operation, to avoid the danger of reinfection.

250 Bishop Street.

ADVANCES IN THE SURGICAL TREATMENT OF STRABISMUS.*

BY DR. EDMOND LANDOLT.

PARIS, FRANCE.

(Translated by Norman E. H. Scott, M.D.)

It was with genuine pleasure that I received an invitation to present a paper on the "Surgical Treatment of Strabismus" at this meeting of the American Medical Association. Nothing could be more desirable to me than an opportunity of referring to this subject, which has interested me for so many years, before a new and receptive audience.

This is not the first time that I have had the honor of discussing strabotomy with you. At the International Medical Congress, held in 1887 at Washington, D. C., I laid before you some of my ideas on the subject. The sympathetic welcome you then gave them has encouraged and stimulated me to continue my studies, and if I have accomplished anything worthy of mention it is a good deal due to you.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The surgical treatment of strabismus is to-day still in a very primitive state; it consists for the most part in tenotomy. A squinting eye is tenotomized just as one tenotomizes a clubfoot. Tenotomy is done just as von Graefe did it half a century ago, although the results of this operation are often most unsatisfactory. Yet we ought long ago to have learned to distinguish between an eye and a foot—between strabismus and talipes.

Like all therapeutic measures, surgical or medical, that of strabismus should be based on the *etiology* of the ailment. The etiology of squint was given in 1864 by Donders. The little there was to add has since been pretty well added, so that for the ophthalmologist there should be no mystery about strabismus. The nature of this affection is, however, far from being universally grasped. The proof of this lies in the theories that are continually brought forward, the least obscure of which makes use of *words*, where Donders gave *facts*. The etiology of strabismus at any rate has not, as it should have done, affected the treatment of strabismus. Tenotomy holds the field now as formerly. Indeed, it appears that many surgeons, who claim to be of Donders' school, have not understood the Master.

You all know the etiology of strabismus; if I briefly refer to it here it is only for the sake of completeness. The movements of the two eyes are associated in the interest of binocular vision. Binocular vision demands that the lines of sight of the two eyes be always simultaneously directed toward the object which attracts the interest of the individual, so that, by the fusion of the two macular images, perfect localization and a stereoscopic impression of the object may be obtained.

If the eyes have not the reciprocal direction required by binocular vision, there is *strabismus*. The individual is, therefore, liable to strabismus whenever binocular vision is not present. In such conditions the eyes obey other agents that are able to influence their reciprocal direction. One of the most important of these is the *association of accommodation and convergence*. These two functions are associated in order to procure, at the same time, a *distinct* and a *binocular image* of the object looked at. This association is established naturally for eyes that are normal, that is to say *emmetropic* or nearly so. In this case the effort required of the two functions is always practically the same. An accommodation of so many *diopters* is accompanied by a convergence of a similar number of *meter-angles*.

If the refraction differ much from emmetropia, the stimulus to obtain binocular vision must be very strong, in order to create a new relation between accommodation and convergence and to force the eyes to take the normal direction. If the stimulus of binocular vision be absent, the eyes, as a rule, are governed exclusively by the stimulus of *distinct vision*, that is to say, they take a direction given them by *accommodation*.

Now, accommodation, *exaggerated* in the *hypermetrope* by the defect of retraction which characterizes his ametropia, will bring about an *excess of convergence*. This is the explanation of *convergent squint* in young *hypermetropes* of a certain degree, especially if one eye is inferior in visual power to the other.

The reverse happens in *myopes*, who see distinctly near at hand, without an effort of accommodation. If binocular vision does not direct their eyes and cause sufficient convergence in the absence of accommodation, such myopes *diverge*, using only one eye for near vision. This may happen, though less easily than in myopia, in any form of ametropia. If, for some reason, binocular vision is absent, the eyes generally diverge, because convergence constitutes an effort, whereas divergence is the state of rest, the primitive direction of the eyes.

Of course, the centers of the two functions, accommodation and convergence, and their center of association may be altered separately and a disturbance of the associated movements of the eyes, i. e., strabismus, result from it. But this form of strabismus is rather exceptional, and the doctrine that strabismus depends on a central or nervous affection although it received an easy acceptance before Donders' day, is decidedly too vague for our time.

We may conclude, then, that strabismus is essentially a *binocular affection*[1]. It is true that it shows itself only in one eye, the other being necessarily directed toward the object looked at. Both eyes are, however, involved and, instead of saying "the left eye has a divergent squint," it would be better to say: "the patient has divergent strabismus, and uses his right eye for vision."

The correctness of this way of considering strabismus is proved on the one hand by its etiology, on the other by its consequences. These are seen not only in the eye that is usually misdirected, but in both eyes. Thus, the lack of the use of convergence in a *divergent* squint entails, *on both eyes*, a diminution in the *nasal* excursions, varying in amount with the degree and duration of strabismus. In *convergent* strabismus, the *temporal* excursion is limited in *both eyes*, though the strabismus manifests itself only in one of them, and that without noticeable increase in the nasal excursion.

These facts, important not only for the etiology, but still more in the surgical treatment of strabismus, have been established independently by Schneller and myself. The fields of fixation which I showed to the International Congress of Medical Science at London in 1881 prove it.

What hints may we gather for the treatment of strabismus from the facts thus briefly summarized? I feel sure you have already drawn the following conclusions:

1. Since binocular vision governs the normal direction of the eyes it is the most important factor in the reestablishment of the normal direction, i. e., the treatment of strabismus.

2. When binocular vision is lost, for instance, in amaurosis of one eye, we can not expect a satisfactory correction of squint, and operation can produce only a cosmetic effect.

3. When the vision is fairly good in both eyes, we must try, by every means in our power, to restore binocular vision, since it is our most powerful ally in any treatment of strabismus.

4. Since the relation between accommodation and convergence plays such an important part in the associated movements of the eyes, we must make this association our aid in the treatment of strabismus, especially in convergent strabismus. We diminish convergence—by excluding accommodation—with cycloplegic and convex glasses.

5. Since strabismus soon brings about changes in the ocular muscles, these measures alone can give satisfactory results only in *recent* cases. When the strabismus

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[1] See my communication to the Congress at Washington.

has existed for a certain time, we have to modify, first of all, the oculo-muscular system of the patient. This is the object of *surgical interference.*

What shall that interference be? Hitherto most oculists have tenotomized the "deviating muscle," as they call it. Why? Because, as we pointed out, certain old masters found an analogy between a strabismus and a clubfoot, because their ideas of the movements of the eyes and of the effect of tenotomy were erroneous, and, *finally,* because tenotomy is a very simple operation.

The erroneous notion that still exerts its harmful influence in the surgical treatment of squint rests on a misunderstanding. Donders, Helmholtz and others proved that the ocular globe turns round a center essentially fixed. Hence it was concluded that in tenotomy of an internal rectus, for instance, the eye could only turn round this center toward the temple. It was even thought that the eye gains in temporal excursion in proportion as it loses in nasal excursion. This, of course, is not so, as I have already proved[2]. When the insertion of one of the recti muscles is set back, the first result is that the eye drops forward, advancing out of its muscular funnel. Its center of rotation becomes displaced in an unfavorable way and the muscles have less grasp on the globe. The muscle thus retracted loses in great part its influence on the eyeball and its antagonist gains little or nothing. Why should it gain? What prevents, for instance, the external rectus from making the eye turn toward the temple in convergent strabismus? To it the rectus internus? This could only happen in a case where that muscle had been shortened and had lost its elasticity by structural alterations in such a way that its relaxation would be impossible. But the limitation we notice in the excursion of the eye in the direction opposite to that of the squint is due to want of exercise of the muscle that acts in that direction. Indeed, it does not exist at the beginning of the squint, but becomes evident only when the squint has lasted some time. This weakness of the muscle is not affected by the artificial enfeeblement which its antagonist undergoes by its setting back. On the other hand the advancement of the weak muscle restores to the eye often more than its normal excursion, without limiting it in the opposite direction. This could not be the case if the antagonist had lost its contractility.

These facts, which a correct conception of the movements of the eyes would have led us to anticipate, are proved by our experiments. The field of excursion, considerably limited on the tenotomized side, is little, sometimes not at all, increased on the opposite side. Even in a normal muscular system, tenotomy of an abductor which considerably limits abduction—i. e., divergence—but slightly increases convergence.

From these facts it follows that instead of making a muscle feebler than its weak antagonist, by setting back, we should endeavor to increase the force of the weakened muscle, by its *advancement.* With a more favorable insertion, the muscle will exert on the ocular globe a more powerful influence. Besides, having shown that the consequences of strabismus always make themselves felt simultaneously in both eyes, it follows that we should practice muscular advancement on the *two external* recti in *convergent* strabismus; on the *two internal* recti in *divergent* strabismus. One might ask, *a priori,* if, in certain cases of strabismus, this double operation does not overstep the requirement by changing the form of the strabismus instead of curing it. Only experience can answer this question. This we have possessed for many years. The results are of the most reassuring character. In *manifest* strabismus, advancement of the two muscles implicated never gives over-correction. In strabismus of *medium* degree, it is well even to increase the effect of the advancement by cutting off the tendinous end of the muscle. In strabismus of *very high* degree or of old standing, this resection may well amount to 6 mm. in each muscle.

After what I have just said, you might conclude that I altogether condemn tenotomy. I do not, so far, however. In particularly unfavorable forms of strabismus one is sometimes obliged to resort to tenotomy in order to increase the effect of muscular advancement. Nevertheless, I rarely practice the two operations at one sitting. I await, first, the definite result of the two advancements. Sometimes one has a happy surprise in obtaining a better result than one dared to hope for, and is able thus to dispense with tenotomy. At any rate, this delay enables us to decide the extent to which the tenotomy should be carried. Usually I perform a very limited tenotomy, making it subconjunctival and without detaching the muscle from its surroundings, avoid a too great recession of the muscle, and a too pronounced advance of the globe in its muscular funnel. Moreover, a delicate tenotomy on two eyes is better than a marked recession of a single muscle.

The idea that tenotomy, made simultaneously with the advancement, gives a greater result than when one practices the two operations, the one after the other, is a misconception handed down from olden times. After an advancement, properly done, the muscle is inserted close to the cornea. Would it be able to go any farther if we practice at the same time tenotomy of its antagonist?

Besides those cases of *extreme strabismus,* where we are obliged to practice the two operations, advancement and tenotomy, many colleagues reserve tenotomy exclusively for the reverse form of the disturbances of mobility to *latent strabismus* or *motor insufficiency.* I do not wish to speak in too categoric a fashion on this subject, above all before my esteemed American colleagues who have for many years made this form of motor anomaly a subject of particularly thorough study. Personally, I rarely find cases of this kind, where operative interference appears to me justified. There must, for example, be quite a decided insufficiency of convergence and it must have resisted all other methods of treatment, before I attack it surgically, and in that case, I nearly always practice advancement of the internal rectus on one of the eyes, knowing by experience that I thus increase considerably the convergent power without altering divergence. Tenotomy of the external rectus, on the other hand, always diminishes divergence and may easily lead to convergent strabismus with a very annoying diplopia, without always curing the insufficiency. I consequently reserve tenotomy for cases with a marked increase of the negative part and only a moderate diminution of the positive part of the amplitude of convergence.

The cases where tenotomy appears to me more justifiable are those *of vertical strabismus with diplopia.* The nature of this form of deviation is quite different from that of convergent and divergent strabismus. In such cases we do not generally meet these muscular alterations which are the rule in ordinary strabismus.

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[2] Archiv. d'Ophthal. System of Diseases of the Eye, iv

Moreover, there is generally a deviation of a *few degrees only.* A *simple* tenotomy, that is to say, only the detachment of the tendon, without a marked recession of the muscle itself is enough to cure it. We practice the operation on the eye which is the higher because the eyes being mostly employed in looking down, the defective mobility, resulting from the tenotomy, becomes less perceptible. If the vertical strabismus be more pronounced, we resort to advancement of the inferior rectus, and even to a combination of the two operations.

These matters, that I have the honor to point out, I communicated to the International Congress of Ophthalmology at Edinburgh in 1894. Even then they were already facts, well established by my researches and my clinical experiences. Some colleagues however, arose then and since, to oppose, to the excellent results which muscular advancement gives, the imperfect ones which they obtained from its employment, that they might point out and praise the more satisfactory results of tenotomy. To the first objection we reply that it is to be hoped that, by perfecting their method of operation and the subsequent care of their cases, our adversaries will some day be as well satisfied as ourselves with muscular advancement. As to the second objection, it will be necessary to understand what a "good result" in an operation for strabismus means. That is a most important question. All of us have received photographs, taken before and after operations for strabismus, as a proof of the attainments of a perfect result. This fact is very characteristic of the ideas that still prevail as to the purpose of strabotomy. These photographic proofs are really too naive. Setting aside the many artifices which the photographer has at his disposal in order to give to the eyes of the subject the most favorable appearance, we desire more than that the patient, in a certain condition, and for one instant, should no longer have the appearance of squinting. We believe in restoring to our patient as much as possible, the normal association of the movements of his two eyes, so that they may be always directed simultaneously to the point which attracts the attention of the individual. Are they so for more than the brief moment necessary for a "snap shot"? No one can tell us even this, because we do not know the object fixed by the person photographed. We know still less what would have become of the relative direction of the two eyes in looking in any other direction.

Let us take the very ordinary and too frequent case of a child operated on for convergent strabismus by means of tenotomy of the internal recti. He can, for example, looking at a distant object, present the appearance of being well corrected, but, on looking to one side, there is a divergent strabismus. This shows plainly, on looking to the left, because the right eye lags behind, on account of the impaired action of the internal rectus and, *vice versa,* on looking to the right. This divergent strabismus becomes still more manifest in looking near at hand. The recession of the internal recti has, in fact, considerably impaired the power of convergence.

Certain authors tell us that, in this form of strabismus, it is allowable to sacrifice the "excess of convergence" the "excess of the nasal excursion of each eye" by setting back the internal recti. There is an excess of convergence, it is certain, but it is an excess essentially relative. For example, if instead of remaining parallel, as they should, the eyes may converge to three meter-angles, when fixing a distant object, or, instead of converging two meter-angles, they may converge five. But it does not follow from this that the total amplitude of convergence is perceptibly stronger than in the normal state. The same thing happens in the excursion of the eyes. It is urged that—in convergent strabismus—the nasal excursions are much more extensive than in the normal state. But, has anyone ever measured them? Because, when we are told that they may have been *"estimated approximately,"* we do not call that measuring. As a matter of fact, if one measures the excursions of the eyes with precision, one finds, as we have said before, that the movements in the direction of the strabismus are scarcely increased, while the excursions in the reverse sense are considerably limited. But a more important question is: does the great sacrifice of motility, which the section of the muscle entails, increase the strength of the antagonist? There again, the reply is often the affirmative, given without investigation and notwithstanding the fact that our researches have for many years exposed the falsity of the theory.

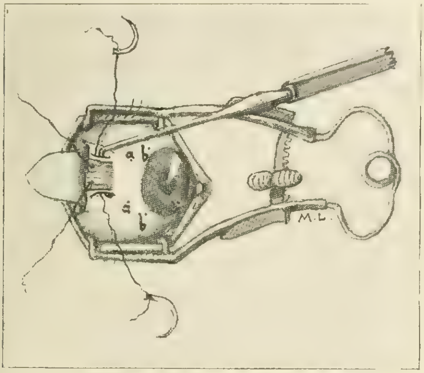
Finally, concerning that binocular vision, which plays so great a part in the etiology and therapeutics of strabismus, denial is made that it can be re-established. We know that we have proved the contrary. It is true, that, under the old method of operating absence of binocular vision was often an advantage, because of the vision annoying diplopia that resulted from the receding muscles. We, on the contrary, know it is our duty to re-establish by every means in our power this binocular vision, knowing it to be our most powerful assistance in arriving at what we consider to be a good operative result, viz.: the re-establishment of the normal relative direction of the two eyes, where the person looks straight forward, to the right, to the left, above, or below, and whether he fix a distant or a near object. If I have said "We," it is because most fortunately I am not the only advocate of these comparatively new ideas. A great many distinguished colleagues who have seen me at work, have accepted them and have developed them to the great benefit of their patients. In the new world especially, I know and am proud of it, there are a great many who have adopted this means of perfecting the cure of strabismus. Even from the other camp, I see deserters coming more or less openly. They now operate on both eyes, instead of attacking only the non-fixing one. They do tenotomy prudently, reinforcing it, if needs be, by advancement of the antagonists. Soon they will replace this partial tenotomy by energetic advancement. I am quite convinced of it, because it is the evolutionary process that I have watched in others and is the same one I have gone through myself. I have especially explained it in our own *Archives d'Ophtalmologie* (March, December, 1895, July, 1896), in this way hoping to save others errors and loss of time.

It is true that although this method often gives us an ideal cure of strabismus, it also often falls short of perfection. But we are on the right path—that is certain—and this certainty gives us confidence to march courageously forward toward the high aim that we should follow together.

For the information of those who are not already acquainted with my *method of operating for muscular advancement,* I append the following description: I always prefer to operate with simple instruments and by a simple method. I begin by cutting a conjunctival flap whose summit reaches the edge of the cornea. (See Fig. 1). I fold it back, so as to expose the insertion of the muscle which is to be advanced. I pass beneath the muscle a rather small and somewhat flattened muscle-hook. In order to be sure of having the muscle completely on the hook, it is well to pass under the muscle a second hook in the opposite direction. I then withdraw the first and give the second to an assistant. Then I introduce into the muscle, from without inward, two sutures, about a third of the width of the muscle from each edge. It is important to include also in the sutures the surrounding tissues. Thus, one gets a very firm hold of the muscle.

If it be a question of *simple advancement,* the sutures are introduced immediately behind the hook, and the muscle is detached from its insertion at the ocular globe.

If a *resection* of the muscle is desired, we introduce the stitches farther back and divide the muscle between them and the hook. To do that, the muscle is gently raised, at one part, by means of the four ends of the stitches, which I hold in my left hand, and at the other, by the hook which is held by the assistant. The tendinous end is finally cut off from the eyeball. After the section of the muscle it is advisable to make sure, by looking underneath the muscle that the stitches are in a proper position and especially that they are not too near the cut border. If this is the case, we should withdraw the stitch in question, and replace it in the requisite position. This is very easy to do, inasmuch as one sees the muscle from below. One of the needles is now passed above, the other below the meridian, into the *episcleral* tissue, close to the corneal margin (a-b, Fig. 1.) to the extent of several millimeters. If one feels that the needle has not penetrated sufficiently deep, one guides it farther underneath the conjunctiva, and if one fears that it has not a thorough grasp, one may pass it once more through the conjunctiva. The assistant then seizes the ocular globe, with a fixation forceps, at the level of the antagonist, and turns it toward the muscle to be advanced. In this way one can tie the stitches without exercising a too great traction on the tissues. In order to find the stitches more easily, we use one suture of white silk and another of black. The operation finished, we carefully wash the eyes, and then apply a *binocular dressing,* even if one eye only has been operated on. The dressing is renewed every twenty-four hours, and remains on five or six days in divergent and about a week in convergent strabismus. The sutures are generally removed on the sixth day. It is most important that the eyes should be kept immobile and the patient very calm and quiet.



Landolt method of muscular advancement.

As to the *re-establishment of binocular vision,* one could write books without exhausting the subject. We can give here only the principles of this endeavor. Here are, in a few words, the main points: 1. Restore to the eye which does not fix, its visual value, by correcting carefully its optical defects, and by exercising it. 2. Cause the patient to perceive *simultaneously* the visual impressions of the two eyes—distant candle flame, colored glass before one of his eyes, prisms, etc. Here again reinforce the visual impression of the feeble eye, so as to render it equally bright as the impression received by the good eye. 3. Make the macular impressions of the two eyes coincide and then fuse—prismus, Priestly Smith's fusion tubes, stereoscopes, etc. 4. Obtain, by the stereoscopic fusion of the images of the two eyes, the impression of *"relief,"* of depth, of the third dimension, appropriate stereoscopic figures—Hering's test, etc.

Many stereoscopes have been indicated for the development of binocular vision. All can serve the purpose, when they are properly used. They must allow of the eyes being fitted with the required correcting glasses, and also must give to the test-objects the position in which the fusion is produced most easily.

In spite of that, one frequently meets with great difficulties even in attempting to produce simultaneous vision. The impression of the good eye prevails, that of the bad appears only during an instant and vanishes immediately. To overcome this difficulty I have constructed a stereoscope which produces in the weak eye a very sharp image, while the luminous intensity of the other image is enfeebled at will, until it no longer overpowers the image of the weak eye.

NUTRITION OF THE LENS AND ITS RELATION TO CATARACT FORMATION.*

BY LOUIS STRICKER, M.D.

CINCINNATI, OHIO.

In studying the crystalline lens system, we are confronted by conditions entirely different from those regulating any other organisms of the entire body. Here we find a living structure, the lens, undergoing all the successive changes of development, progression and retrogression, devoid of the usual complicating factors—blood-vessels, nerves and lymphatics—subject to the influence of its nutritive supply, which is brought to it by the vitreous, possibly by the aqueous, both of which are likewise devoid of these complicating factors—blood-vessels, nerves and lymphatics. The lens is also subject to the mechanical influence exerted on its shape by the zonula Zinii. To this latter influence, the lens responds in a purely passive manner, due to the inherent elasticity of its fibers. Subsequent to its embryonal development period of growth, the lens consists of closely packed lamellæ of fibers, which become more densely packed as we approach the center, thus forming the nucleus as distinguished from the cortex, the outer, younger, more succulent lamellæ. All the fibers are derived from the epithelium, which originally invested the entire interior of the capsule, but with the completion of the third period of fetal development, conditions are changed; henceforth, the entire growth of the lens depends on the development of new fibers from the cells which line the anterior capsule.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

These epithelial cells are the important factor of the lens, and have various functions to perform: 1. They excrete the capsular substance, which forms not only the covering, but aids in holding the lens together, and likewise acts as an osmotic dialyzing membrane. 2. These cells maintain the continuous and uniform growth of the lens and preserve the intracapsular pressure and equilibrium, which is likewise dependent on the gradual formation and shrinkage of the nucleus. 3. The selective power of these cells is to assimilate food for their nourishment. 4. To act as a barrier, preventing the entrance of abnormal fluids—permitting, by osmosis, the interchange of indifferent fluids, those which exert no detrimental chemical action on the lens-fibers, and possess an index of refraction, consistent with a perfect transparency of the lens.

The lens is practically immersed in its nutritive supply, and the fluid which has passed through the capsule by osmosis permeates all the interlamellar and interfibrillar interspaces; hence, literally, the fibers are bathed in nutritive fluid, a condition which is more perfect in the cortex than in the nucleus, where the fibers are more closely packed. It surely must be evident that since, with each accommodative effort, the lens changes its shape, at the same time the fluid in the interfibrillar spaces must likewise change its relative position, and in this manner currents are set up, by means of which the fluid, which has served its purpose, is forced onward and fresh fluid enters the lens, these accommodative efforts producing an effect which may, in the lens, be likened to the diastole and systole of the heart. Later in life, when the nucleus has become less resilient and its lamellæ denser, and the nucleus as a whole no longer gives during these accommodative efforts, to the same degree that the cortex does, this inequality of resiliency leads to the formation of splints and fissures, in which the nutritive fluid stagnates and is subsequently not pressed out, thus leading to the first recognizable evidences of cataract formation, due to a changed index of refraction of this fluid in the interspaces. In consequence of neighboring fibers being deprived of a fresh nutritive fluid, these undergo degenerative changes, give up some of their contents and take up some of the abnormal fluid; thus the first cataractous changes are set up.

Many authorities have sought to set up distinct modes of entrance and exit, for the nutritive fluid, into the lens. Since all effete matter is carried off by the aqueous, the effete matter from the lens must likewise pass in this direction, and it is undoubtedly given off anteriorly, most authorities claiming in a circular area, bordering on the anterior pole. Since the fibers develop along the equator, and since experimental investigators have obtained the deepest reaction to chemicals along this line, it has been assumed that along this line the nutriment gains access to the lens, and distinct paths have been pointed out, pseudolymphatic spaces—if one may so express it—in which the fluid circulates. This line of entrance has been accepted as between the zonular fibers, but the mode of its circulation is still a question of doubt. The *vis a tergo,* and the suction power in the anterior chamber, produced by the absorption along the line of the canal of Schlemm, must of necessity keep up the continuous circulation of the nutritive supply, and this is undoubtedly materially assisted by the manifold changes in the shape of the lens, induced by every accommodative effort. One form of cataract which may be looked on as the result of this general interference with the circulation of the nutritive fluid, is the cataract which develops in the course of glaucoma.

The posterior surface of the lens has no epithelial protection, simply the homogeneous lens capsule, which is considerably thinner than the anterior. In cases of chorioretnitis and retinitis pigmentosa, in which there has been disease of the choroidal vessels, we find as the result of osmosis posteriorly, of a defective nutritive material, the appearance of a posterior cortical cataract, in the region which receives its nutriment directly from the vitreous.

The interchange of fluids in the lens is entirely chemical, perfectly passive, being entirely separated from the influence of blood-vessels or nerves, the only condition which could influence this condition being one of temperature.

All the varieties of cataract—except those due to congenital malformations—can be explained on a basis of chemical change, the variety of the cataract depending on the chemical constitution of the nutritive fluid, the intensity of its action and the time of life. It has been shown that in the normal eye, the chemical constitution and the index of refraction of both aqueous and vitreous are practically the same.

CAHN'S COMPLETE ANALYSIS.

	Humor Vitreous.	Humor Aqueous.
Albumin	0.074	0.082
Remaining organic substances	0.071	0.148
Ashes	0.971	0.993
Water	98.884	98.777
	100,000	100.000
Inorganic substances.		
K_2SO_4	3.74	5.99
KCl	5.57	2.92
NaCl	74.43	78.11
PO_4HNa_2	1.82	1.99
$(PO_4)_2Ca_3$	0.44	0.62
$(PO_4)_2Mg_3$	0.22	0.40
Na_2Co_3	12.67	8.72

"According to this the watery fluids of the eye are very similar to the cerebrospinal fluid, and the transudates which are weakest in albumin."

The chemical analysis of the aqueous obtained from patients having cataract contained more albuminous substance than the aqueous of the normal eye. Though no chemical analysis of the vitreous during the progress of cataract formation has been made, attention has been called to the fact, clinically noted, that opacities appear in the vitreous, indicating a degeneration thereof.

From this, the conclusion has been drawn that some chemical constituent of the vitreous is present in either too great or abnormal a quantity, or some agent entirely foreign to normal vitreous is present, which leads either to an excessive, deficient or abnormal nutritive supply to the lens. Like conditions noted in the aqueous are in part due to an interference with the proper interchange of fluids in the lens. The albuminous increase in the aqueous being derived from the lens, is *not a cause* of the cataract but rather a *result,* since it has further been shown that the senile cataracts contain a less amount of albuminous material than the senile non-cataractous lenses taken from the same period of life. Further, the senile cataractous lens contains considerably more water—76.23 : 69.06 per cent.—than the non-cloudy senile lens, all of these facts proving that there is a very marked chemical difference between the cataractous and non-cataractous senile one.

It is a well-known fact that the direct contact of normal aqueous and vitreous with the lens fibers causes these to swell up and dissolve in the living eye—an ordinary observation in traumatic cataract. Hence, there must be something present in the aqueous and vitreous, which vith a perfect integrity of the lens existing, is prevented from entering the capsular sac. In all experiments ever made, by means of which the epithelial cells lining the nterior capsule were destroyed, this barrier being even partially removed, fluids inimical to the lens proper gained entrance, and, if they did not at once cause the ens to swell up—a condition which always occurs in the formation of senile or constitutional cataract—they caused a change in the index of refraction of the cortical ubstance with a consequent change in the transparency of the lens, which we designated as cataract. The entrance of a pathologic fluid or constituents of *normal luid*, which under normal conditions can not pass through he capsule, lead to a degeneration or solution of some of the cortical lamellae of fibers, and by osmosis some of he constituents of the lens are removed and the intracapular pressure is reduced, and soon the various forms of pathologic cells—Wedl's vesicular cells, etc.—begin to levelop; further the capsular epithelial cells begin to undergo hyperplasia, and produce a condition frequently noted in cataracts which have existed for a long time, viz., capsular cataracts.

Capsular cataract may also be the result of adhesions of extracapsular tissue in close relation, or due to exudates on the capsule, which interfere with the proper nutrition of the capsular cells. But in some cases where hese capsular cells have been exposed for a long time to he deleterious influences, be these traumatic, or the result of long-continued action of an abnormal nutritive supply, as observed in diabetes, albuminuria, or any of he dyscrasias as cholera, anemia, gout, these epithelial cells die at certain points and the entrance of a pathologic fluid is established, with its consequent effect on he lens fibers. Occurring in intrauterine life, such conditions may lead to a complete fluidity of the contents of the capsule, and depending on the nature of the contained fluid, may be perfectly transparent or milky, or he outer lamellæ alone may become fluidified, the central unimpaired portion, simulating a cataract Morgagnii. n every case which has thus far been examined microscopically, the statement is made that the epithelium ining the anterior capsule was found practically destroyed, and the destruction of the epithelium is to be considered a very essential factor in the production of cataract.

As a result of the physiologic retrogression of the lens nd its elements, with each succeeding year, the nucleus rows larger, the cortex less, so that the nutritive supply xerts its influence on a lesser amount of substance, and when this becomes pathologic, it affects only the outer ayers, and the opacity never becomes so dense—and consequently, in operating, the older the individual the reater the nucleus to be extracted, which, as a rule, is *ot* cataractous—owing to the density of the superimposed lamellæ, which the altered chemical constitution f the nutritive supply has been unable to attack. But here are exceptions to this rule, as witnessed in Von raefe's hard or waxy cataract, and a form occurring in persons past the 40th year, in which, contrary to the general rule, a soft nucleus is found.

In the aged, just as in the young, the cortex may become perfectly fluid, without materially affecting the ucleus, which, sinking to the bottom of the sac, gives us he typical picture of a Morgagnian cataract.

There are conditions in which nutritive disturbances ay only be active for a certain period of time, thus not nly affecting the growth of the fibers, but at the same me affecting their transparency. Subsequently, a normal nutritive supply is again supplied, and the epithelial cells regaining their former normal condition, again produce perfectly normal fibers, which, in course of time, are applied over the affected lamellæ, and thus is explained the zonular or lamellar cataract, which, when occurring early in life and subsequently becoming more compact, may give the appearance of a central or nuclear cataract, and this condition may repeat itself at various intervals, thus giving us the picture of a double zonular cataract.

In considering hereditary cataract, in which in each succeeding generation the cataract occurs at an earlier age, it has been suggested that the cause is to be sought in a reduced viability of germinal cells, which, at the very beginning, are set aside to form the lens germ. Why these cells should have a lesser viability than others of the entire body seems almost unanswerable, but where one stops to consider the isolated position of the lens, its distant removal from the blood-supply, and the extreme sensitiveness of its epithelium to nutritive disturbances, one can conceive how an organism starting out with a reduced viability and resistance, will succumb, especially where conditions are unfavorable. Hence, we may look on the epithelium lining the anterior capsule, as the great factor, not only in the production of the lens, but of its protection against the inroads of disease. This protecting power of the epithelial cells once annulled, the train of changes takes place in a perfectly passive manner, subject entirely to the intensity of the action of the chemically-altered nutritive fluid. What this chemical change consists in, must eventually be solved by the student of physiologic chemistry.

"The Groton."

DISCUSSION.

Dr. J. L. Thompson, Indianapolis, Ind.—I consider myself exceedingly fortunate in meeting with a gentleman who is able to answer a question which I have frequently asked of members of this Section of our Association, concerning a peculiar opacity of the lens, which I have seen at its lower inner margin, which is rarely ever seen in persons under 50 years of age, and which rarely ever causes complete opacity. I have watched such opacities for a period of thirty years, and in but one case has it ever advanced sufficiently to cause complete cataract. In cases where other portions of the periphery become opaque, complete opacity may be expected, but when only the lower inner portion is opaque one need not expect the whole of the lens to become involved. Has gravity anything to do with its causation? I hope that the essayist will be able to answer this question to my entire satisfaction.

Dr. Ayers—The question of lens nutrition is one of very great importance, and I am glad to hear what has been said of it. We are not able to say how nutrition fails and why it runs for generations in some families, while others are entirely free from it. It is a matter which still requires much study.

Dr. H. Gifford, Omaha, Neb.—I should like to confirm Dr. Thompson's observations. I well remember the paper he read some years ago, and whenever I find a little opacity in the lower and inner part of the lens, I generally tell the patient that he has it, but that it is of a kind that seldom increases and is not likely to give him any trouble. I have followed one such case for fifteen years, and though the patient is 72 years old, she still has vision of 20/30.

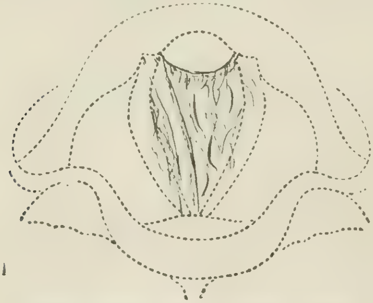
Dr. Murrell—I am very glad to hear Dr. Thompson's remarks in regard to the formation of these opacities. I remember some years ago, when I started in practice, I was taught that nearly all lens opacities would develop into full cataracts. During my fifteen years of observation I have seen just such cases as Dr. Thompson describes, and noticed that such opacities in the lower part of the lens seemed to be stationary.

Physician as Beneficiary.—The mere fact that the beneficiary of a decedent was his medical adviser, the third appellate division of the supreme court of New York, holds, In re Cornell's Will, does not raise any presumption of undue influence, at least in a case where the beneficiary is not present at the transaction, and the will is drawn from instructions given by the testator himself.

A CASE OF MULTIPLE LARYNGOTRACHEAL STENOSIS.*

BY THOS. HUBBARD, M.D.
FELLOW AMERICAN LARYNGOLOGICAL ASSOCIATION.
TOLEDO, OHIO.

Adventitious stenosis of the larynx or trachea is usually attributable to syphilis. Lesions of this character—ulceration, cicatrical tissue, formation of contractures—are rarely observed in childhood and adolescence. The case which I report has a somewhat obscure history both as regards constitutional and initial symptoms of the present condition, and there is, at worst, merely a vague suspicion of congenital syphilis based chiefly on pathologic probabilities and the questionable moral status of the parents, the mother being Spanish and at the present time being apart from her second husband. On the other hand, the evidences against systemic disease are: A healthy mother and sister, the father was healthy up to the time of having typhoid fever, with which he died, and the patient is of good morals, exhibits good vitality and has no active symptoms at present. The girl is now 20 years of age and her physical development is above the average. At 14 she contracted a severe cold, due to exposure while skating in drenched garments, and there developed laryngitis and bronchopneumonia of severe type. The temperature was very high, accompanied by dyspnea and cyanosis which persisted throughout the attack. There was also dysphagia. Epistaxis and hemoptysis persisted for several weeks. The dyspnea increased to the degree of constant orthopnea. She grew emaciated and feeble, and remained so for more than a year.



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Larynx—Girl aged 14 years. Cicatricial stenosis.

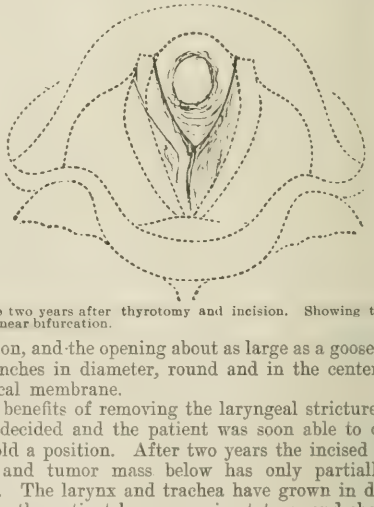
Judging from the description and symptoms there was intense inflammation and subsequent ulceration in both larynx and trachea, with but little or no perichondritis. After a year she began to improve, but breathed with difficulty all the time. Attendance at school was denied her because of the noisy respiration. With even a slight cold she would lie for days cyanotic and fighting for breath. Her mother says she would often become black in the face and unconscious after severe exertion and when she had a cold absolute rest was necessary.

As her strength returned and the larynx and trachea enlarged she suffered less, but at the time that I first saw her, four years later, her breathing could be heard in an adjoining room. On examination I discovered that at the level of the vocal cords there was a cicatrical membrane which closed the glottis, except posteriorly. She was breathing through an aperture such as would admit one-half of a common bean, 2/16 by 5/16 inches, the longest diameter being transverse. There was no phonation, only loud whispering. Some degree of cyanosis was manifest after any muscular exertion, and she was not able to do housework continuously on account of difficult breathing.

The larynx above the plane of the vocal cords was quite normal, and the action of the arytenoids was free. The patient states that in certain positions there is a valve-like plugging of the orifice from below. The nares, nasopharynx, and pharynx were normal, and the teeth excellent. With the Kirstein tongue-depressor and long probe bistoury I was able to make a notch in the web, but not sufficient to relieve the respiration. Repeated attempts convinced me that here was a mass of tissue below the web which would necessitate the use of a sharp knife applied with force.

She was anesthetized and thyrotomy performed, the whole length of the cartilage being incised. The cicatrical membrane was cut from behind forward. There was a fibrous nodule filling more than the anterior half of the lumen just below the vocal cords. This was incised to the cricoid cartilage. I was not prepared to remove it, and the result proved that it was not necessary.

The cartilages were adjusted and wired and the recovery was uneventful. She had a speaking voice, and was much less liable to attacks of dyspnea. There was still loud respiration, and a careful examination through the enlarged glottis enabled me to see a second stricture several inches below the larynx, near the bifurcation, and the opening about as large as a goose quill, 4/16 inches in diameter, round and in the center of a cicatrical membrane.



Same two years after thyrotomy and incision. Showing tracheal stenosis near bifurcation.

The benefits of removing the laryngeal stricture were fairly decided and the patient was soon able to obtain and hold a position. After two years the incised membrane and tumor mass below has only partially reunited. The larynx and trachea have grown in dimensions as the patient has grown in stature, and she is in such a condition now that she can endure a sever bronchitis without dyspnea, and is able to work with comparative comfort. She continues to grow and th organs to enlarge, and so long as improvement is observed I shall not urge further operative interference.

It should be observed in this case that the causativ factor, syphilis, is not proved, and there is strong probability of an inflammatory condition so intense a to be accompanied by ulceration, loss of tissue, adhesions and contractures. Acute subglottie inflammation of the lymphadenoid deposit in this region is suggested by the presence of the fibrous nodule below th cicatricial membrane. At the age of 14 years lymphad enitis is a constant factor in all inflammations of the upper and middle respiratory tract and the nodule is probably the atrophied remains of a subglottic mass of glandular tissue. The free incision has made permanent improvement. Dilatation would probably have resulted in positive injury since it would have served merely to temporarily stretch the yielding arytenoid cartilages apart and by traumatism impair their present mobility.

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*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[Note: In studying this case it was observed that pressure on the thyroid cartilage, crowding it backward firmly against the bodies of the vertebra, caused abduction of the arytenoids and widening the aperture transversely. This maneuver was utilized during anesthesia when the respiration became impeded by relation of the abductors. It might give relief in the laryngeal crises of locomotor ataxia and similar conditions.

Anesthesia presents special features in such cases. The second stage is much prolonged, and when the third stage is reached great care must be exercised. To the degree that complete narcosis has been retarded on account of impeded respiration there is an element of danger. The patient will emerge from the third stage correspondingly slowly because of the deficient respiratory elimination of the anesthetic.]

INFECTIVE GRANULOMATA OF PHARYNX: GLANDERS.*

BY EMMA E. MUSSON, M.D.

PHILADELPHIA.

For the laryngologist the case to be reported will have at least two points of interest. It is, as far as I can find, a unique case of infective granulomata of throat due to the bacillus mallei. Its other point of interest lies in its microscopic and macroscopic resemblance to sarcomata of the tonsils. Virchow was the first to use the term "infective granulomata," applying it to the lesions of tubercle, lupus, syphilis, glanders, leprosy, actinomycosis and rhinoscleroma, on account of the resemblance which they show to some forms of tumor. It, however, remained for Loeffler and Schuetz, in 1882, to discover the bacillus mallei.

Mrs. H. R., aged 54, married, reported to me Oct. 2, 1893, with the history of rapid enlargement of tonsils commencing twelve months ago; for the past three months they have been their present size, and for that length of time she has had much difficulty in breathing, with severe pain on swallowing food, so that at times she would refuse to eat. During the last year she has lost flesh to a rapid and alarming extent; three months ago she was confined to bed for three weeks, with pleurisy; there was no family history of cancer. Her appearance is one of marked emaciation, skin of face wrinkled and yellowish-white in color; expression that of one exhausted by extreme suffering and starvation; in marked contrast to the emaciation of her face was the extreme fullness of the neck, beginning on each side about the angle of the jaw, giving it a pouched appearance resembling that of a well-known species of pigeon.

On examination of the pharynx, I found it completely filled by two large, smooth tonsillar masses, the left measuring about 1½ inches in length and an inch in breadth, the right slightly smaller, the anterior palatine arches on the right side were normal, but it was impossible to tell by direct or digital inspection the condition of the left palatine arches. Opinions varied and this confusion was cleared up later, while operating, by discovering that a soft growth the size of a black walnut filled up the left half of the nasopharynx. The size of the growths prevented any post-rhinoscopic or laryngoscopic examination. A few of the anterior cervical and all the submaxillary glands are enlarged, the submaxillary forming a string of glands, each the size of a filbert, giving to the chin and neck its pouched appearance.

A small portion of the left tonsil was excised for microscopic examination, the specimen examined by Dr. Florence Hull Watson, who reported sarcomatous infiltration. The case was then examined by Drs. Cohen and Keen, who confirmed the diagnosis of sarcomata of the tonsils. On October 23, under cocain anesthesia, I removed the left tonsil, preliminary to a contemplated radical operation, by Dr. Keen, for removal of the submaxillary glands. The larger portion of the tonsil was removed by Jarvis' snare, with enucleation of the stump by the finger. The mass, against my expectation, proved soft and friable. On digital examination of the nasopharynx, to detect any possible involvement of left palatine arches, I found a soft mass, the size of an English walnut, filling up the left half of the vault. With the detection of this mass I determined that a radical operation for the entire removal of the remaining growths and lymphatic glands would not be feasible. I, therefore, decided simply to remove the remaining tonsil and the mass in the vault, that the patient might eat and breathe with comfort. For this purpose she was etherized on October 30, the right tonsil enucleated and the nasopharyngeal growth, which was soft and friable, removed by Loewenburg's forceps; its base thoroughly curetted. The attachment of this growth was to the vault of the nasopharynx and to Rosenmüller's left fossa. There was sudden and profuse venous hemorrhage on removal of the tonsil, which was controlled by pressure. The patient recovered without complication, and returned to her home on November 13, where daily applications of pyoktanin, 1 per cent. solution, were made to the vault of the nasopharynx. Both tonsils were sent to Dr. Watson for microscopic examination. Her report states: "Specimens on examination showed round-cell infiltration but did not bear out the sarcomatous degeneration that the teased section promised. I should think it highly probable it could go on to such a state."

On November 27, the patient again presented herself at the office. Her whole aspect was changed. She was perfectly comfortable, with good appetite and breathing through both nostrils. On examination of the pharnyx, the right faucial region was clear, the posterior left palatine arch slightly nodular, there was marked diminution in the size of the cervical and submaxillary glands, giving the neck a normal appearance. Laryngoscopic examination, for the first time, was now possible, and revealed hypertrophied masses occupying the glosso-epiglottic space. These masses were soft, round and smooth. From this time to about January, 1894, I made a series of hypodermic injections of pyoktanin, 1 to 3 per cent. solutions, in the posterior palatine arches, with the result of a marked reduction in size.

The patient returned to me in March, 1895, an interval of a year having elapsed, with the following history: April 26, 1894, she went to see Dr. Fleischer for uterine hemorrhage which had existed for three months. Dr. Fleischer found a small polypoid growth, which he removed; on microscopic examination the growth proved to be inflammatory in character. In August of the same year she had been seized, while at Atlantic City, with an attack of dysentery that nearly resulted in death from exhaustion; the dysentery was attributed to indiscretions of diet and to the drinking water.

On examining my patient's throat I found a soft nodular mass occupying the left faucial region with marked increase in the size of the lingual masses. Pyoktanin was again injected, at intervals, into the faucial mass, with reduction in size; the lingual tonsils continued to increase in size, and feeling that the diagnosis was still doubtful, I had the old specimens of the right and left tonsils sent to Dr. Kyle for examination, through the kindness of Dr. Watson. His report says: "On microscopic examination I find the tissue to have very little fibrous stroma but consisting largely of glandular structure and small round cells. The blood-vessels, while irregular and illy-formed, are largely made up of small round cells, closely packed together, forming sluice-ways. I believe the tissue to be sarcomatous."

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On July 20, 1895, I removed the left lingual tonsil with galvanic cautery snare under cocain anesthesia. The patient again returned in September, 1895, with reappearance of the mass in the left faucial region, palatine arches apparently much thickened; pyoktanin injections were recommenced. In December, 1896, she reported deafness and sense of pressure in the right ear, and I found a mass of granular tissue on the right side of the vault of the nasopharynx, and on the left side a small amount of dense fibrous tissue the size of the former growth. The nodular mass of the left fauces was rapidly growing in a downward direction. I removed a portion of this and sent it to Dr. Kyle, who, after seeing the patient's throat, reported it as a case of infective granulomata, probably due to the bacillus mallei.

In January, 1896, the mass in the nasopharynx caused considerable obstruction in the Eustachian tube, and necessitated the use of the Politzer bag; I recommenced pyoktanin injections and used protonuclein locally and internally. By March 12, 1896, the mass in the fauces filled up more than three-fourths of the pharynx; it now looked like typical granuloma tissue. At this time the patient became subject to attacks of diarrhea, and enlarged glands were detected in the left axillary and right inguinal regions.

March 17, 1896, under ether, I enucleated the mass in the left fauces; tissue soft, friable and easily detached; some portions of it were jelly-like in consistency and purple in color, the broken-down tissue due to the pyoktanin injections; the mass in the nasopharynx was removed with forceps and curette. Pyoktanin was applied to all fresh surfaces, followed next day by applications of the galvano-cautery to the cut surface in the left fauces, to prevent possible re-infection. The patient did remarkably well and left the hospital for her home in three days, her temperature being normal. A portion of the granulation tissue removed was sent to Dr. Rabinowitsch, who made a series of inoculations on six or seven guinea-pigs, with the following report: "My experiments on guinea-pigs are by the method of Strauss and with pure cultures, inoculating a number of male guinea-pigs with bits of the suspected tissue or culture injected into the peritoneal cavity. In about thirty or forty-eight hours the testicles began to swell, the skin over them became red and shining, desquamation occurred, pus formed and the resulting abscesses (purulent orchitis) often broke through the skin. Besides inoculations into the peritoneal cavity, I also made subcutaneous inoculations. Post-mortem examinations on guinea-pigs, besides purulent orchitis, showed numerous white flocculi over the surfaces of the intestines; which, when placed under the microscope, showed fields full of characteristic bacillus mallei."

On March 27, ten days after operation, the patient's temperature ran up to 103 degrees, accompanied by diarrhea and excessive and alarming tympanites with abdominal tenderness. Under treatment with salol and arsenite of strychnia and high rectal antiseptic injections, she improved and was able to be out of bed by April 20. On June 8, 1896, the appearance of the pharynx and nasopharynx was perfectly normal, with no apparent return of granulation tissue. The bacteriologic report of the nasal secretion and sputum showed no bacilli mallei, but plenty of streptococci and staphylococci. At this time I left the city, and, returning in October, heard of the patient's death, and that post-mortem had not been made.

As to history, the closest questioning never elicited anything that would give the slightest clue to the method of infection. The mucous membrane of the nose, though markedly swollen and purplish over the inferior turbinates, showed no signs of old cicatrices over the septum, and what symptoms of catarrh existed were later explained by the mass in the nasopharynx. It is probable that the nasopharyngeal mass was the point of the primary lesion, or at least the primary metastatic growth; the faucial and lingual tonsils and lymphatics of the cervical and submaxillary regions becoming successively involved by metastasis; the femoral and axillary involvement being the result of a general infection that took place in the later stage of the disease. It is interesting to note the involvement of the ring of lymphoid tissue of the pharynx, similar to what we have in lymphatism.

The greatest point of interest was the resemblance of the case to sarcomata of the tonsils, the large smooth masses of the tonsils completely filling up the fauces, the enlarged cervical and submaxillary glands, the marked cachexia and extreme emaciation, and the intense pain on swallowing, causing the patient to refuse food—almost pathognomonic of sarcomata of the tonsils. Microscopic examination, though doubtful, led to the supposition of round cell sarcoma, as the tissues showed marked round-cell infiltration with very little fibrous stroma. In the last edition of Green's "Pathology," infective granulomata are described as lesions consisting of cells, varying between lymphoid and giant cells and lying in a scanty matrix, while the mass thus formed presents to the naked eye a more or less defined outline; the lesions, therefore, resemble sarcomata in structure. The predominance of enlarged submaxillary lymphatic glands was a source of confusion in the diagnosis of sarcomata of the tonsils, the cervical glands being the ones usually involved.

Frank Billings writes that indirect metastasis or indirect dispersion of bacilli from the seat of primary lesion takes place by the lymphatics, as well as do the absorption and dispersion of any chemical products of the germ in the infected center, or of the necrobiosis of tissues in such centers. From the lymphatics such factors are poured into the blood, and from these metastases to other organs take place, or the chemical irritants are distributed over the organism of the host. When bacilli find their way into the lymphatics and become fast in the tissues of the next lymph-glands, there results a neoplasm. That this has been the case here is probable, as direct metastasis, due to the immediate entrance of the bacilli into the veins by corrosion of their walls, would presuppose a primary invasion, attended by ulceration, which the history of the case would not warrant.

Dr. Billings, in referring to involvement of lymphatics and lymph-glands, states that complications of these organs in glanders is limited to the diseased territory which they drain, but that this has no reference to the general induration or parenchymatous changes which the stroma of the lymph-glands generally undergo in chronic glanders, due either to toxic action from adventitious germs accompanying bacilli mallei, or from absorption and generalization of products of necrobiosis of neoplastic and invaded tissue. This latter fact would account for the involvement of the glands of the axillary and femoral regions in the latter stages of the disease at a time when the disease has ceased to be a chronic invasive one and has become an acute infectious one, with the production of toxins, causing profuse parenchymatous changes. Whether this parenchymatous process involved the kidney, liver and spleen, as well as the axillary and inguinal lymphatic glands, in the absence of a post-mortem, is not known.

Necrobiosis.—Usually these granulomata, according to Greene and Billings, degenerate early and show little tendency to develop into permanent tissue. Foster describes infective granuloma as a neoplastic formation of unstable granulation tissue that spreads from the center into the surrounding connective tissue, the central portion eventually suppurating. Dr. Billings states that in glanders in the horse, tubercles invariably develop around a central vessel, from which radiates a network of capillaries, between which are cells; the same is true of a certain portion of the nodes as well as larger growths, when emboli consist entirely of bacilli mallei, pearly, hard, enduring growths result; when other germs are mixed with glanders bacilli, necrobiosis begins in the center or in the immediate vicinity of the vessel. Referring to man he states that circumscribed neoplastic indurations are less marked. At no time in the history of this case was there any evidence of necrobiosis, or the breaking down of the neoplastic growths, except that due to disintegration caused by pyoktanin injections.

During the whole course of the disease there was no increase of temperature, except ten days after the last operation, when it rose to 103 degrees; after this we have a varying temperature from 99 to 100 and 102 for nearly a month. At this time the disease must have ceased as a chronic form of glanders and entered into the acute stage; in the words of Dr. Billings, it ceased to be a strictly invasopathogenic affection as represented by granulomata due to irritation caused by the bacilli mallei and more or less local, and became a toxopathogenic disease, or a fever-generating one, whether due to the toxins of bacilli mallei, or to the entrance of adventitious germs, must remain an open question. Dr. Billings refers to the bacillus mallei as a parasite that occupies a stage midway between a toxopathogenic organism and an invasopathogenic one. In its chronic form, glanders is an invasopathogenic organism, producing no fever or other symptoms of infection; it becomes acute either from a change taking place in its host or the bacilli itself, when general symptoms of infection take place, fever, etc., and its toxopathogenic phase of existence becomes most marked.

A last point of interest at this, the acute stage of the disease, was the intestinal symptoms that accompanied the rise in temperature, diarrhea, grave tympanites and abdominal tenderness. The cause of these symptoms, in view of the lack of post-mortem evidence, can never be known; one can only suppose that a sufficient number of the bacilli mallei found their way into the intestines during or after the operation to give rise to local infection, possibly the involvement of the lymphoid structures of the intestines, Peyer's patches, either by direct absorption or by metastasis. High rectal antiseptic injections and antiseptics by mouth were given, and with good results in view of this complication having taken place.

Resume.—1. Microscopically and macroscopically, the tonsillar neoplasms were undistinguishable from sarcomata of the tonsils. 2. Bacteriologic examination alone confirmed the diagnosis of glanders. 3. Probably the neoplasm in the nasopharynx was the primary growth. 4. The involvement of the lymphatics draining the diseased area, and later the appearance of parenchymatous changes taking place in the general lymphatic system. 5. The absence of necrobiosis of the neoplasms or invaded tissues. 6. Change from a chronic invasive disease, chronic glanders, to an acute infectious disease, acute glanders, resulting in death.

DISCUSSION.

Dr. J. F. Barnhill, Indianapolis, Ind.—I have had a case very much like the one just reported. A woman applied for treatment at my office in 1896, I think it was in June, with tonsils appearing as the essayist has described in her case, but the lingual tonsil was very much more enlarged than was the faucial. It was so much enlarged that she could not lie down at night, on account of the obstruction to respiration. The condition had been going on for several months. The lymphatic glands along the neck had been much hypertrophied and a general surgeon had removed them. I removed the mass of lingual tonsil with a cold snare and it weighed over an ounce. There has been no recurrence in either the faucial or lingual tonsils, but along the neck there has been a return of the former condition, in a much more extensive form. She is living yet, but is expected to die any time. It is a case very similar to the one reported here, although both the pathologist and microscopist stated that my case was a round-celled sarcoma. I never had so many examinations made as in the case of Dr. Musson, and consequently know much less about my case.

The Chair—It seems to me this case points out to us very thoroughly that we could go further when there is any doubt as to the microscopic report.

Dr. Robert Levy, Denver, Colo.—I should like to ask the essayist two questions: What did the patient die of? I do not know that she mentioned that. What was the immediate cause of death? After the operation how long a time elapsed before she had the last bacteriologic examination made?

Dr. D. M. Greene, Grand Rapids, Mich.—I should like to ask if there was a tendency to hemorrhage in the case. I have had a similar case.

Dr. Emma E. Musson, Philadelphia—The patient died during my absence from the city, Dr. Greenwald, attending the case, said that there was extensive abdominal dropsy and a recurrence of the growth in the throat, but that he could not procure a post-mortem examination. Antitoxin mailein was procured from Germany, but as no promise could be made as to its beneficial effect, its administration was refused. There was no hemorrhage at any time.

NASAL AND AURAL COMPLICATIONS IN EPIDEMIC INFLUENZA*.

BY SARGENT F. SNOW, M. D.

SYRACUSE, N. Y.

The importance of ear and nose complications in epidemic influenza impresses itself on us as we come more and more to see that much of the acute suffering in the disease depends on their severity. Practically all its headaches and cranial pains are due to pressure in the nasal passage, or to pent-up secretions within the adjacent sinuses, the outlets of which are blocked by the acutely congested membranes, and it is for the sake of emphasizing and sustaining this argument to those of the general medical profession who read the proceedings of this Section that I shall inflict many well known and seemingly useless details upon the specialists here assembled.

The ethmoidal cavities are particularly susceptible to inflammation in la grippe, and in some cases they may be the only ones involved, but in a few patients the disease rapidly extends, one sinus after another being affected until perhaps the frontal sphenoidal and maxillary as well as the ethmoidal are affected, a peculiarity being that these inflammations are likely to be confined to one half of the head.

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The membrane of the post-nasal space is affected in almost every case, and in some of the aggressive ones the Eustachian tube, middle ear and mastoid cells become involved in spite of our best efforts.

In patients with a fair natural power of resistance to disease, we can by proper systemic and local treatment so reduce the virulence of the poison and control nasal inflammation as to promote a free drainage of sinuses and thereby prevent the formation of pus; but in those of lowered vitality and resistance, particularly if they are subject to catarrhal inflammations, there will be pustular collections in some of the deeper sinuses in spite of the most careful attention.

In the light of our present knowledge and our facilities for examining into the cause of the severe cranial pains that usually accompany epidemic influenza, I can hardly see how we can be justified in calling them neuralgias and make no effort toward reducing the congestion of the membranes. These pains do not occur except from pressure of nasal tissues or imprisoned mucus. Attempts to relieve them are almost always successful for a time at least, and certainly do less harm than locking up bodily secretions by an opiate.

Differentiation of the causes of headache may be difficult at times, because of a complication of conditions; for instance, the superior portion of both nasal passages may be completely occluded and the sphenoidal cavity in an acute state of inflammation, in which event, we will have both much frontal and occipital pain apparently radiating from the center of the head, in fact a severe general headache, due to inflammation of the regions mentioned, but with good nasal respiration in the mass of cases, though either one or the other nasal fossa will be stuffed, and the pain will radiate from the area of pressure, showing the half of the head involved. At the beginning of the trouble, there may be a dull general headache due to a diffused sensitiveness and inflammation of the nasal and post-nasal membranes, but indicating no particular localized area of nerve irritation.

During the early stage, the ethmoidal region rarely ever escapes, at least some mucopurulent accumulation with an ache or pain extending up over the bridge of the nose and under the eye to the temple of the side affected, though surgical work at this time is as a rule unnecessary.

Inflammation of the frontal sinus is characterized by deep supraorbital pain which very often becomes intense.

Acute sphenoidal and maxillary involvement are both more rare in occurrence. In the sphenoidal we get a heavy, deep-seated, sometimes splitting pain radiating toward the sides of the head and occiput upward, associated in some cases with confusion of ideas, loss of memory and psychologic disturbances, but relieved when the pent-up secretions find an outlet.

Maxillary or antral trouble is mainly characterized by a heavy load or dull ache in the cheek and pain radiating toward the outer angle of the eye, but not as a rule marked by the severity of symptoms manifest in frontal or sphenoidal trouble.

If the Eustachian tube becomes swollen, a sense of pressure on the ear drum, or fulness, is complained of, due to lack of balance in the air-pressure.

Middle-ear trouble is not a constant accompaniment in epidemic influenza; many times the only symptom directing attention to those parts will be from the tubal occlusion just mentioned, but in other cases, the inflammatory state extends rapidly to that cavity, bloody serum is transuded and the drum ruptured, perhaps before we are called. This may mark the turning point, but in occasional instances there will be a rapid invasion of the mastoid cells, with tenderness and pain behind the ear, which, if not combated, becomes a serious complication. Occasionally we find the supposed middle-ear trouble to be a furuncle of a diffused inflammation of the external canal, which takes the usual course and with very little care makes a speedy recovery.

Mastoid inflammation in any degree, calls for earnest consideration, and though in epidemic influenza it may be self-limiting, a few hours' delay can mean much to the patient. The only safe rule is to begin at once with measures for driving or extracting blood from the parts; whatever method is chosen, let it be done promptly and with vigor.

Protracted or neglected cases of inflammation in any of the passages or cavities above specified may become chronic, affect the hearing and act as the cause of adenoid and other glandular overgrowths.

Before taking up the treatment of the foregoing acute nasal and aural complications occurring in la grippe, let me say that even the general practitioner should be equipped both with knowledge and means of attacking these local conditions as well as those of the general system. Few appliances are necessary, and the benefit and relief obtained are much appreciated.

For the majority of cases, a mild alkaline solution, as Seiler's, snuffed or sprayed into the nostrils every two or three hours, followed with benzoinol plain, or in combination with menthol (grs. 3 to 1 oz.), will suffice, but in those suffering with the severe pains mentioned earlier in this paper, more careful treatment has to be given, and in the main by the physician himself.

The object to be attained is relief of intranasal congestion, particularly in the superior portion, with consequent better drainage of adjacent sinuses, then if pus does form, its least resistance will be found along natural outlets.

Two or three jets of a 2 per cent. solution of cocain, with a fine spray, though I think of it only to condemn except in the hands of the physician, opens the part for better application of a light spray of iodol, menthol and ether (Squibbs) one grain each to the ounce. This latter combination should be made fresh each day. It promotes and prolongs the contraction obtained by the cocain and, when followed by the benzoinol or some oily spray, is very grateful to the patient and gives the ethmoidal and frontal sinuses a better opportunity to unload their secretions.

For the relief of the sphenoidal or tubal inflammation, post-nasal application of the same sprays should be made, but if active work has been done on the earlier trouble, the deeper cavities are not apt to be severely involved.

In acute frontal, ethmoidal and maxillary inflammations, application of the ice-bag in the early stages will do good. Hot fomentations later on seem to act well in loosening the secretions.

Serious middle-ear complications can often be aborted by prompt blood-letting with leeches in front of the tragus and at the tip of the mastoid, followed by the aural ice-bag. It is well also to inflate by Politzer's method, and, if pain be severe, hot-water injections by a fountain syringe, one pint each hour, produce decided relief. If, in spite of the above treatment, it is found that the drum becomes bulged, a free incision into the posterior half should be made, carrying the knife well through so as to cut the periosteum lining the middle ear. This later point I believe to be important, as it tends to prevent mastoid complications.

If the mastoid does become involved, the measure instituted must be most prompt, energetic and persistent. If the ice-bag be applied, it should be kept on continuously for hours, the object being to drive the blood from the part, and it is much better to keep it out than to have on interval of recongestion, as will occur, if the nurse be slow in refilling the bag. If hot fomentations are preferred and are more grateful to the patient, and the same energy be displayed by the nurse so that the blood-vessels remain contracted, we can feel sure that we are carrying out rational methods, and using the proper means to avoid an external operation.

Personal experience teaches that in many of those cases of acute mastoid trouble, where there is no previous history of chronic suppuration of the middle ear, though there may be evidence of pus in the mastoid cells, if pain is relieved and they can be carefully watched for brain complications, we are quite safe in relying on the continuous and persistent applications of cold to promote a recovery.

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DYNAMICS OF SCHOOL PUBERTY.*

BY M. H. HATFIELD, M.D.

CHICAGO.

Dynamics, according to Webster, are "the moral as well as the physical forces, and the laws which relate to them," hence dynamic pubetry in city children, for of country children I know but little. My whole life has been a city life; my practice largely with city children, and I have come to know only too well some of the penalties which they pay for their urban existence, especially about the time of puberty; so much so that I have come to dread the time of their blossoming into manhood or womanhood under our present school system. It should be, for the child's highest possibilities a time of sunshine, singing birds and spiritual bloom.

What is the actual condition of the average city child especially the girl, at this time. Haven't most of us in mind more than one case where one year ago the girl had the normal appetite, the bright eyes, the verve and go of the typical American child? Since then she has entered the high school, and day by day has been losing ground. Her appetite, except for pickles and coffee, has gone. She was once a tomboy, and now complains that it tires her to comb her hair. Her rosy cheeks have disappeared; her lips are anemic, her ear-tips translucent; menstruation is scanty; the pulse intermittent, and you may find an anemic bruit on ausculation.

But why should I enumerate her symptoms? You know them as well as I. This is what I wish to ask: Is it necessary that this girl's blossoming should be purchased at such a price as this? Topsy in the southern cotton field knows nothing of these penalties, even though she performs hard labor when in the "dark of the moon." What makes the difference? It is not far to seek: Topsy "just grows," while the Chicago girl is educated according to the edicts of a board of education selected by an elective mayor; need I say more?

At present the alternative for the city girl seems to lie between culture, with the ills of abnormal menstruation, or to be cultureless and in joyful ignorance of menstrual pangs and her Latin parts.

In physiologic dynamics we have learned that every mental effort produces a characteristic fatigue curve on a recording drum; crowd effort still further, and it passes into a fatigue irritability with characteristic and unmistakable record on the recording drum.

"In the stupid old times," says Charles Kingsley, "children were taught to know a few things and know them well, but in these enlightened times they are taught to know a little about everything and to know it all ill, which is a great deal easier and pleasanter, and therefore quite right"—or to put it in electric nomenclature, our children are human dynamos with certain potential voltage for each one, which voltage can not be increased by multiplying the switches, or attaching more incandescent lamps. Every additional study is an attempt to attach another lamp on the child's intellectual circuit. Small wonder that a girl's dynamo, which always runs at a higher rate of speed than her brother's, begins to splutter somewhere along the line. *Propter uterum est mulier,* hence sexual irritability, religious vagaries and the sexual perversities of overcivilization.

Who is to blame for these things? Chiefly we as physicians, unless we at every convenient opportunity, and at some inconvenient ones as well, have taken occasion to make known that the time of sexual awakening is one of peculiar temptations and stress for the modern girl. We lay heavier burdens on her shoulders than she can safely bear, and then complain because she came out a morbid and bad-tempered apology for a sound, normal woman.

The boy does not generally fare so badly physically, for the wires on his circuit are usually of coarser make, and his studies are usually more of a burden to his teacher than to himself. He suffers chiefly from bad air of the school room, the cigarette and the moral atmosphere by which he finds himself surrounded. As a rule he has plenty and more than plenty of good food, but he matures in an unhealthy atmosphere, chemically and morally, since in every great city there is a cumulative increase of refuse in the air, in the street, even in the home. A saving grace of athletics may counteract for the boy some of these forces, but as President Elliott of Harvard truthfully says, it is absolutely impossible to preserve in health any family that resides uninterruptedly for two generations in a great city.

Now add to this subnormal condition of physical health, the stupidity of our ordinary public school teachers in selecting the educational burdens which they hope to bind on the shoulders of all the students in their "grade," and you have a condition of affairs which cries to Heaven for remedy—not in vain, I believe, if the members of this Section in season and out of season protest vigorously against what Mrs. General Lew Wallace rightly calls the "Slaughter of the Innocents." Perhaps the physical side of the question needs no more repetition to this Section, but just a word as to its psychology—a subject sadly neglected in all our medical colleges.

On this head let me quote from my master. Professor George A. Coe, to whom here I wish to make grateful acknowledgement for original work along this line: "Who of us," says he, "stops to think that puberty is the time of intellectual and religious flowering no less than physical?" "The years from 14 to 17 are especially those of hesitating, introspective conscience and intellectual thirst for the absolute"—facts to which little or no heed is given in our present system of education. These are the years of the establishment and regulation of puberty as well, and I am profoundly convinced that either process of development, the mental or the physical, and still more both, since they occur conjointly, require the most careful regulation of the youth's life at that time."

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Has it ever dawned on the average city school teacher that such pupils are liable to serious physical and spiritual injuries arising from the mental and spiritual vagaries incident to the sexual adjustment of their lives? The average grade-teacher of our progressive city schools concerns herself with little that lies not in her grade. The one essential fact that is daily impressed on her pupils is that at any cost they must "pass" on final examinations, or be everlastingly disgraced. It may be, and generally is, true that these examinations consist of memorized repetitions of facts that are of no possible use in the future life of the child. There has been no intelligent effort on the part of the teacher to teach the child to think; to educate, to draw out and develop its budding powers. The process in the average public school is not education, but *farcement,* to borrow an old English word—a stuffing of undigested facts into unhealthy children, after the fashion of the geese of Strasburg. What I wish to insist on in this paper is that the modern method of public school education during the establishment of puberty is most hurtful to the future sexual and psychic health of the child. To quote again from Prof. Coe: "It is folly and worse than folly to assume maturity where maturity does not and can not yet exist. The result is over-taxation, worry, despondency, morbid conscience, bad temper and heightened liability to sexual temptation." All these things we know and have seen, and yet we keep silence because it is the fashion to bear them "

But all this, perhaps you say, is destructive criticism, which is vastly easier than to offer a better way. Granted! But, on the other hand, we shall never seek improvement until we grow dissatisfied with present methods; and if we can formulate just reasons for dissatisfaction our time has not been misspent.

Here then is our charge in the case of Puberty vs. the City Public School System, viz., The maturing child, for its perfection, needs active exercise, pure air and sufficient food. The present public school requires that pupils, irrespective of their physical condition, maintain an unnatural condition of quiet, in an unphysiologic posture for many hours each day. Add to this poor ventilation, oftener none or worse, and it is small wonder that the child grows listless, loses its appetite and gives proof of nerve tire on the proper physiologic testing. Moreover, many of these pupils, especially girls, attempt to take instruction in music at this time. Some time, I presume, the physiologists will explain to us why the study of music, especially in its earlier monotonous exercises, is so exhaustive of nerve force. But whether we understand or not the why and wherefore, the fact remains that a large percentage of menstrual irregularities occur in young girls endeavoring to become musicians in addition to their regular school work. The humble potato will sprout and send up long waxy stems, and attempt to blossom in a sickly, ineffectual way even in a cellar. Such is the menstrual life of the city girl. if she strive for place or position, and music is a brick—if you care to carry the comparison further—laid on the flower of menstruation. Hence, from the standpoint of one who loves his race, I dread the city music teacher, and hate the musical college if its work is taken in addition to forced school work.

Fellow judges, on the bench assembled, if it be true that our city school takes from its pupils the air, appetite and vital force necessary to properly establish the functions on which the perpetuation of the race depends, then our city inhabitants are making a costly exchange, in spite of the gain in wider culture and information.

Culture, let us remember, originally meant the preparation of the earth for crops, hence Bacon speaks of the "culture and manurement of minds in youth." Manurement, certainly, our boys get in our public schools, but what of the crop? It has come to pass that in these latter days we build and endow agricultural colleges in order that our farmers may better know what sort of manure to use in their wheat fields, but any crude normal school graduate may, unquestioned, "spread her compost on the weeds of our children's minds to make them ranker." Herein is folly. A sound, well child is the best crop of the state. No price is too high, no care too great which insures such results. Are you satisfied with the harvest that is being garnered from our present public school methods? Is the average high school girl a pleasing commentary on the nineteenth century civilization? Our city boys and girls have disappeared, and in their stead we have raised a crop of self-conscious, short-sighted, round-shouldered, stunted, disagreeable prigs, who despise their parents and betters, and think that knowledge shall die with them. I am heart-sick for the old-fashioned, dirty, idle, vital girl and boy who knew intimately the joys of sunshine, field, flower, brook and bird, and—thank God—nothing of Miss Harrison's esoteric significance of bread and molasses.

In behalf of the state I call for an injunction against the present boards of education, which are sacrificing our children to our alleged civilization. It makes modern culture no less a Moloch to spell it with a large C and deck it with the flowers of our eloquence. The old brazen idol did its work quickly with the children laid in its arms, while the priests drowned their cries with timbrels and shoutings. We call our modern Moloch "Culture," and it shrivels and dwarfs the souls and bodies of our children while we shout to them the names of their cerebral convolutions, and cut ourselves with the knives of our self-conceit. The Assyrian Moloch had the head of an ox; the American Moloch has the head of that humbler animal which in the fable of Esop was carried by the old man and his two sons as a result of their super-civilization.

FURTHER OBSERVATIONS ON THE THERAPEUTICS OF THE CHLORID OF GOLD AND SODIUM.*

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One year ago Dr. Brower[1] read a paper before this Section, on the "Therapy of the Chlorid of Gold and Sodium," in the course of which he recommended it as an alterative and tonic, claiming for it, in properly selected cases, the power of increasing the percentage of hemoglobin and the number of red blood-corpuscles and renal elimination, and advising its use in secondary anemia, chronic interstitial inflammations, and in syph-is in debilitated subjects. Since then a series of care- illy conducted experiments, under his direction, have een made at the laboratory of Rush Medical College nd in the Cook County Hospital, the results of which ith a short history of the cases and some comments re herewith submitted.

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*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] Journal, Oct. 1, 1898, p. 754.

CASE 1.—*Chlorosis.* Miss A. C., aged 18, weight 140 ounds, seamstress, began to complain of languor and onstipation about two years ago. When she came un- er observation, she was greatly distressed by palpitation f the heart, shortness of breath, headache and irregular ienstruation. She was well developed and well nour- hed; the mucous membranes, however, showing some nemia. On February 28 she was put on the chlorid of old and sodium, 1/20 gr. with powdered guaiac, three mes daily, in a capsule; later this was increased to /10 grain. No other treatment was instituted, except daily laxative, and the patient continued to work. s a result of treatment no marked change occurred in ie blood. There was, however, some amelioration of ie general symptoms and the appetite improved.

	Feb. 28.	March 7.	March 14.	March 28.
Reds	4,500,000	4,312,000	4,500,000	4,188.000
Whites	6,000	13,000	6,000	8,500
Hemoglobin, per cent.	64	60	60	65

CASE 2.—*Chlorosis.* Miss L. C., aged 18, a sales- oman, stated that her illness began about one year and half ago, with sensations of great fatigue on slight ex- rtion. At a later date she began to feel languid at l times, the appetite became poor and capricious, and eep was disturbed. The patient was well nourished, ie mucous membrane showing a marked anemia, and ver the base of the heart was heard a soft systolic mur- ur. The treatment was the same as in Case 1. There as some improvement in the blood and in the general mptoms.

	Feb. 21.	March 7.	March 14.	March 21.
Reds	3,232 000	3,640,000	3,672,000	4,008,000
Whites	....	7,000	9,000	9,200
Hemoglobin, per cent	35	38	39	40

CASE 3.—*Chlorosis.* Mrs. E. N., aged 25, housewife, ad been ill about six months, suffering with pain in the egion of the heart, dyspnea on exertion, great weak- ess, and at times severe headache and vertigo. Her ppetite was capricious; her bowels constipated. Exam- iation revealed a well-developed, fairly well nourished tient, the skin and mucous membranes, however, very ile. The right heart was somewhat enlarged, and over th the base and apex and in the vessels of the neck as heard a blowing systolic murmur. The blood ex- nination showed microcytes and macrocytes, and a oderate poikilocytosis. The patient, on February 25, as put on the chlorid of gold and sodium in solution, '20 gr. three times daily, and this was increased to '10 gr. in a few days. There was no other treatment stituted except a daily laxative. The patient remained bed much of the time, but was allowed to get up at easure. On March 11 an examination of the blood owed a small increase in the number of red blood- rpuscles, but no increase in the percentage of hem- lobin. There was also a slight increase in the urinary lids and in the percentage of urea, but no improve- ent in the general health. At this time she was put i iron, under which she improved very rapidly, as is own by the appended table.

	Feb. 25.	March 5.	March 11.	March 20.	March 27.	April 3.
Reds	2,903.000	3,164,000	3,205.000	4.000,000	4,650,000	....
Whites	6,500	7,500	7,800	8 400	5,000	
Hemoglobin per cent	30	32	30	45	55	65
Urine.						
Spec. grav	1,017	....	1,024	....	....	.
Urea, per cent	2.2	....	2.3	....		..

CASE 4.—*Chlorosis.* Miss P., aged 17, a clerk, had been ill about three months. The onset was insidious, with loss of appetite and obstinate constipation. When first seen she complained of great lassitude, shortness of breath and headache. She was well nourished, the mucous membranes, however, being somewhat pale. Her treatment commenced March 28, being the same as in Case 1, and was followed by slight improvement in general health, and some increase in the number of red blood-corpuscles. The percentage of hemoglobin, however, did not rise.

	March 28.	April 7.	April 14.	April 21.
Reds	3,650,000	3,600,000	3 672,000	4,072,000
Whites	....	..	7,500	6,000
Hemoglobin, per cent	35	37	38	40

CASE 5.—*Secondary Anemia; Syphilis; Locomotor Ataxia.* John C., a shoemaker, aged 58 years, had been sick about two years, complaining of cramps and sharp shooting pains in the legs, and of late, difficulty of locomotion. When he came under observation, he was unable to walk except with the aid of a cane, on account of the ataxia, and had some bladder and rectal disturbance, loss of patellar reflex, and myosis with loss of pupilary reflex. His general health was also somewhat depressed, and a marked anemia was present. On February 1 he was put on the chlorid of gold and sodium, 1/20 gr. three times a day in solution. This was increased to 1/10 gr. in a week. As a result of the treatment there was a marked improvement in the general health and nervous symptoms. The gait became nearly normal, and the frequency and severity of the pains decreased. While the urea increased in amount, the total solids diminished. The blood examination showed an increase, both in hemoglobin and red blood-corpuscles.

	Feb. 1.	Feb. 7.	Feb. 19.	March 1.
Reds	4,388 000	4,588,000	4,600,000	4,700,000
Whites	7,200	10,200	9,000	6.000
Hemog'obin, per cent	60	65	73	80
Urine.				
Spec. grav.	1,017	....	1,012	..
Total quan., c.c.	1,800	....	1,728	....
Urea, gms.	18	....	25.92	....

CASE 6.—*Secondary Anemia; Syphilis.* Jas. C., aged 38, a bartender. His illness dated back about four months, although he has had several previous similar attacks; the first one occurring five years ago. The symptoms complained of were neuralgic pains, tingling and formication of the feet, shortness of breath and palpitation of the heart. He felt very languid at times, has had some diarrhea, and his feet would swell when he was on them very much. This was at first thought to be a case of pernicious anemia. In favor of this diagnosis was the emaciated condition of the patient, with flabbiness of the muscles, the extreme pallor of the mucous membranes and the yellowish tinge of the skin. The extreme reduction of the red blood-corpuscles, with nucleated corpuscles, normoblasts, and a marked poikilocytosis spoke for this diagnosis. While the red blood-corpuscles were greatly reduced, the percentage of hemoglobin was reduced in the same ratio, as the appended table shows. The other findings in the case, such as a general lymphadenitis, and enlargement of the liver and spleen, made the diagnosis of a secondary anemia more probable. The patient denied any specific history, but admitted that at one time he had a sore on his genitalia. From Dec. 28, 1898, to Jan. 27, 1899, the patient was put on the usual treatment for anemia: arsenic and iron with catharsis. During that time there was but little improvement in the general health, and the blood showed but little change for the better. January 27, the patient was put on the chlorid of gold and sodium in solution, at first in 1/20 gr. doses, and in about two weeks this being increased to 1/10 gr. Under this treat-

ment there was a marked improvement in the general health and in the condition of the blood.

	Dec. 28,	Jan. 27.	Feb. 7.	Feb. 14.	Feb. 23.	March 2.	March 9.
Reds	680,000	841,000	1,050,000	1,824,000	1,712,000	2,048,000	3,400,000
Whites	5,390	6,600	9,920	5,066	6,900	9,000	22,000
Hemoglobin per cent	16	22	25	32	40	50	60
Urine.							
Total amt. c.c.	1,800	....	2,084	.....	1,940	.....	.....
Sp. gr.	1,017	....	1,014	.....	1,020	.....	.....
Urea, gr,	18	....	18.34	.....	19.42	.....	.....

Case 7.—*Secondary Anemia; Syphilis.* Emil N., aged 16, a teamster, had a hard chancre about five months ago. When first seen he complained of a sore throat, rheumatic pains, and had a rash on his body. He was well nourished and well developed. The skin showed a fading, universal, macular rash, and on the posterior wall of the pharynx was a small mucous patch. The lymphatics were generally enlarged; and at the site of the former chancre was a large indurated area. He had been treated for a few days with potassium iodid and mercurial inunctions. On February 16 this treatment was discontinued and the patient was put on the chlorid of gold and sodium, 1/10 gr. three times a day before meals. The rash continued to fade, the general health to improve, and all the secondary manifestations disappeared. The red blood-corpuscle count in a month's time went up to nearly normal, with the hemoglobin registering 70 per cent., and a marked leucocytosis. There was also an increase in the total amount of urine, the urinary solids and the urea.

	Feb. 10.	March 12.	March 18.	March —.
Reds	3,609,000	......	4,500,000	4,600,000
Whites	9,000	......	22,000	20,000
Hemoglobin, per cent	60	......	65	70
Urine.				
Total amt. c.c.	900	1,200	....	....
Sp. gr.	1.020	1,018	....	....
Urea, gr.	10 8	22.800	....	....

Case 8.—*Secondary Anemia; Syphilis, gumma of testicle.* John D., aged 47, a laborer, had syphilis about twenty-five years ago. For about two weeks the left testicle had been swelling and becoming hard. A few days ago this swelling broke down and discharged a thick yellowish material. The patient's general nourishment was poor, and the lips and conjunctivæ pale. On the lower part of the left side of the scrotum was a deep ulcer about an inch in diameter, round, with margins somewhat irregular and undermined, and the base made up of flabby granulations, covered by dirty yellowish-grey necrotic material. The ulcer extended into the indurated tissues of the testicle and epididymis. On Feb. 8, 1899, he was put on the chlorid of gold and sodium in solution, 1/10 gr. three times daily. In three weeks the blood showed a marked increase in the number of red blood-corpuscles and in the percentage of hemoglobin. The gumma of the testicle was beginning to heal when the patient discontinued treatment. There was also some increase in the total amount of urine, urinary solids and urea.

	Feb. 8.	March 4.
Reds	3,688,000	4,300,000
Whites	8,900	9,000
Hemoglobin, per cent	60	70
Urine.		
Total amt. c.c	800	1,000
Sp. gr	1,030	1,030
Urea, gr	20	25

Case 9.—*Secondary Anemia; Empyema.* Willie K., aged 17, Dec. 13, 1898, was stabbed in the left side of the chest. The wound inflicted was about two inches in length, between the third and fourth ribs, below the axilla, and through it the lung prolapsed. At this time it was thoroughly cleansed and disinfected, and packed with gauze. Subsequently it became infected, and an empyema developed, for which a rib was resected and drainage established. At the time that treatment was commenced the patient's general nourishment was po The mucous membranes and finger tips showed a mark anemia. The wound of the left side of the chest w discharging pus freely. Treatment with the chlorid gold and sodium was begun on February 12, and co tinued up to March 25. No improvement was noticed the general health, nor in the blood or urine.

	Feb. 12.	Feb. 25.	March 18.	March 25.
Reds	4,576,000	4,642,000	4,780,000	4,650,000
Whites	11,800	17,600	20,000	18,000
Hemoglobin, per cent	60	64	62	60
Urine.				
Total amt. c.c.	800	740	800	....
Sp. gr	1,020	1,030	1,020	....
Urea, gm	14.80	11.84	14.40	....

Case 10.—*Secondary Anemia; Chronic Tuberculo and Nephritis.* James G., aged 45, a bridge carpent had been in poor health for a long time. The ons was insidious, with cough and expectoratic pain in the chest and gastric disturbances. E general health had gradually failed, and had lost in weight. On physical examination was noted that the patient was very pale and anemic appearance and his general nourishment poor. T chest was long and narrow, and the expansion was n equal on both sides. Over the upper portion of the upp lobes of both lungs, but more marked on the right sic the resonance was somewhat impaired. Over these r gions also the breath sounds were somewhat bronchi in character, and small moist râles were heard. T heart was negative, the liver somewhat enlarged. Ov the anterior aspect of the right leg was a pigment cicatrix. The urine contained albumin and many h aline, granular and epithelial casts. The sputu showed tubercle bacilli. On February 13, the patie was put on the chlorid of gold and sodium, 1/20 gr. powder, with sugar of milk; this was soon increased 1/10 gr. three times a day. It was given in conjuncti with potassium citrate, 15 gr. three times a day, a Basham's mixture, 1 dr. three times a day, up to Fe 23, 1899. At this time the blood count showed some i crease in the number of red blood-corpuscles and corresponding increase in the percentage of hemoglobi The general health had also improved somewhat, and t patient was able to do light work. On February 2 all medication except the chlorid of gold and sodiu was discontinued. The red blood-corpuscles continu to increase in number and the hemoglobin percenta to rise. April 4, the patient died of an intercurre pneumonia and the autopsy verified the clinical diagr sis, viz., chronic tuberculosis and nephritis.

	Feb. 3.	Feb. 14.	Feb. 23.	March 8.	March 14.	March 2
Reds	3,093,000	3,552,000	3,533,000	3,688,000	3,700,000	4,112.00
Whites	4,600	8,133	7,133	8,800	9,000	11,00
Hemoglobin per cent	44	45	50	55	55-60	6
Urine						
Total amt. c.c.	1,700	....	2,250	....	2,225	....
Sp. gr	1,015	....	1,014	....	1,020	....
Urea, gr	15.30	....	18	....	18.375	....

Case 11.—*Secondary Anemia; Chronic Nephrit Hydrothorax; Ascites.* Henry L., aged 40, a porter, v taken sick about nine months ago, with shortness breath and cough. At a somewhat later period the f began to swell. The dyspnea has constantly gro worse. The patient was well nourished and well dev oped. There was considerable dyspnea present, so t the patient had to be propped up in bed. The muc membranes were somewhat pale. The examination the chest showed the respiratory movement to be v much restricted. Sonorous and sibilant râles were he universally over the chest. There was dulness behind both sides below the angle of the scapula, and here breath sounds were faint, and small moist râles he

oth the right and left ventricles of the heart were en-rged. There was some ascites present, and the edema of e lower extremities extended up to the thighs. The ine contained albumin and numerous hyaline and anular casts. The treatment was commenced Feb. 1, 399, with 1/20 gr. doses of the chlorid of gold and so-um three times a day. Diuretics, heart stimulants and aphoretics were given in conjunction with the chlorid gold and sodium. The patient continued to grow orse and the treatment was discontinued on Feb-ary 15.

	Feb. 1.	Feb. 9.	Feb. 15.
Reds	4,300,000	4,240,000	4,300,000
Whites	5,500	11,000	6,000
Hemoglobin, per cent	55	60	60
Urine.			
Total amt. c.c.	575	....	650
Sp. gr.	1,020	....	1,020
Urea, gr	15.52	....	16.25

CASE 12.—*Secondary Anemia; Intestinal Tuberculo-s.* D. D., aged 23, a shoemaker, gave the onset of his ness as about one year ago, with vomiting of blood and eat pain in the epigastric region. He gradually lost weight, and about eight months ago a diarrhea de-loped, and has been present since that time. The pa-ent was poorly nourished and poorly developed. The in had a subicteric tinge, and the mucous membranes ere pale. The lungs and the heart were negative. The odomen was tender in the epigastric region, and in the gion of the liver. The lymphatic glands of the groin, illa and the neck were palpable. No tubercle bacilli ere found in the sputum or in the feces. An injection tuberculin gave a febrile reaction. The treatment as the same as in the previous cases. When the dose chlorid of gold and sodium was increased to 1/10 gr. ree times daily, the diarrhea became very much ag-avated and there was considerable abdominal pain resent. The blood and urine showed practically no ange at the end of five weeks.

	Feb. 6.	Feb. 14.	Feb. 26.	March 1.	March 12.
Reds	3,136,000	4,280,000	....	4,140,000	4,180,000
Whites	25,000	22,200	....	18,000	18,000
Hemoglobin, per cent.	50	50	. .	49	55
Urine.					
Total amt. c.c.	900	....	900	....	1,525
Sp. gr	1,024	....	1,018	....	1,015
Urea, gm	16 20	....	14 40	....	13 725

CASE 13.—*Secondary Anemia; Idiopathic Pleurisy.* m. K., aged 23, a student, had for about four weeks iffered with pains in the right side of the chest and me cough. The pain was of a lancinating character, gravated by coughing and respiratory movements. uring this time the appetite was poor and there was me fever present. At intervals the patient suffered ith headache and dizziness, and he lost both in weight id strength. When examined his general nourishment as good, the sclera had a subicteric tinge, and the mu-us membranes were pale. The movements of the right de of the chest were somewhat limited and, over this de, both behind and in front, could be felt and heard coarse friction rub. About four weeks after the onset the pleurisy the administration of the chlorid of gold id sodium was commenced in 1/20 gr. doses, and later 1/10 gr. doses with sugar of milk. Under this treat-ent the appetite immediately improved and at the end four weeks the blood and urine were about normal.

	Jan. 21.	Jan. 30.	Feb. 6.	Feb. 21.
Reds	4,512,000	4,600,000	4,840,000	4,780,000
Whites	6,200	6,800	7,400	6,500
Hemoglobin, per cent	73	75	80	85
Urine.				
Total amt. c.c	700	1,000	1,020	1,200
Sp. gr	1,030	1,028	1,025	1,030
Urea, gr	14.63	16.00	16.32	24.00

CASE 14.—*Secondary Anemia; Typhoid Fever.* Alex. ., aged 29, a tailor, was taken sick about five weeks ago with headache and general pains and later a chill. These symptoms were followed by cough, diarrhea and great weakness. Epistaxis occurred several times during the beginning of his illness. The patient was somewhat emaciated and the lips pale, tongue dry and coated with a thick, grayish-white fur, the heart and lungs negative and the abdomen not tender. The spleen was palpable. The Widal showed agglutination and immobility of the typhoid bacilli. The treatment was commenced about ten days after the fever had abated, and the patient had been put on solid foods. The chlorid of gold and sodium was given in 1/20 to 1/10 gr. doses three times daily, in distilled water. The patient rapidly improved in general health. The blood counts show a more rapid increase in the corpuscles than in the hemoglobin.

	Oct. 24.	Nov. 6.	Nov. 15.	Nov. 16.	Nov. 25.	Nov. 26.
Reds	....	3,120,000	....	3,400,000	....	4,776,000
Whites	....	....	....	....	....	....
Hemoglobin, per cent.	....	60	....	60	....	70
Urine.						
Total amt. c.c.	1,250	....	1,500	....	2,075	....
Sp. gr.	1,018	....	1,020	....	1,018	....
Urea, gr	27	....	27	....	24.05	....

CASE 15.—*Secondary Anemia; Typhoid; Syphilis.* R. H. C., aged 21, a stenographer, two weeks ago began to have headaches, pains in the joints and general malaise. He had several distinct chills, followed by fever at times, was nauseated, but did not vomit. There was no diarrhea nor constipation present, but occasionally severe abdominal pains. Epistaxis occurred several times. The patient was fairly well nourished, somewhat apathetic, and the mucous membranes showed distinct anemia. The tongue was heavily coated and the breath foul. The heart and lungs were negative. There was diffuse tenderness over the abdomen, spleen palpable, the Widal reaction positive. The chlorid of gold and sodium was administered as in the previous case. The general condition and blood improved very rapidly.

	Nov. 11, 1898.	Nov. 30, 1898.
Reds	3,600,000	4,200,000
Hemoglobin, per cent	65	72

The four cases of chlorosis showed improvement in general symptoms, slight improvement in the blood record, and the only case in which the urine was examined, some increase in elimination. Cases 5, 6, 7, 8, 13, 14, 15, cases of secondary anemia, all showed extraordinary results in hemogenesis, especially Case 6, which was phenomenal. This case made but little improvement under the ordinary tonic treatment, but under the use of the gold salt, the "red" increased five and a half times in number, the hemoglobin from 16 per cent. to 60 per cent., and the total urinary solids and urea increased. All of these seven cases showed increase in urinary solids or urea or both. No improvement was observed or could have been expected in Case 9, a case of empyema, the wound freely suppurating. Case 10, a case of chronic tuberculosis, was somewhat benefited by the administration of the chlorid of gold and sodium, which enters into the treatment of chronic tuberculosis by the Shurley-Gibbs method. Case 11 was beyond the reach of this or any other therapeutics.

A SPECIAL dispatch to the *Phila. Telegraph* states that the bubonic plague in Paraguay baffles the attempts of the medical men to stop its spread. Dr. Castillo of the hygienic department, and Drs. Voges and Delfino, have diagnosed the disease at Asuncion as the plague. In Paraguay, in 54 cases reported, 32 deaths have occurred. "Curiously enough a systematized campaign is being carried on from Paraguay to suppress the facts in connection with the epidemic."

OBSTRUCTIVE GROWTHS OF THE PYLORUS, WITH A REPORT OF A SUCCESSFUL CASE OF PYLORECTOMY.

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Growths that may cause obstruction of the pyloric orifice of the stomach are[1]: Carcinoma, simple hypertrophic stenosis, cicatricial growths following simple ulcer of the pyloric region, cicatricial growths from ulcers produced by swallowing corrosive drugs, simple hypertrophy of the coats of the stomach at the pylorus, especially of the fibrous and muscular coats, mucous polypi, and rarely sarcomata, fibromata, myomata, lipomata and cysts.

All of these excepting carcinoma and cicatricial contractions are so seldom met with that they need not command attention except to mention them here. But cancer of the stomach and other organs is of such frequent occurrence, and apparently so much on the increase, that it should command our most earnest consideration.

That cancer is one of the most potent factors in causation of death, can not be denied. Dr. Senn[2] states that in England and Wales, during ten years—1860-1870—there were 2,379,622 deaths of persons over the age of 20, and of this number 81,699 died of carcinoma, a ratio to all other deaths of 1:29.

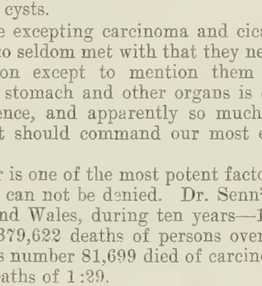

FIG. 1.—(Diagrammatic.) The dark line represents approximately the location of the pyloric amputation.

According to Dr. Joseph B. Bryant of New York,[3] the death-rate from cancer has in twenty years increased—1874-1894—from 1.82 per cent. to 2.17 per cent. of the total mortality. Heberlin[4] gives the percentage of cancer of the stomach from 1877 to 1886 as 4.1 per cent., and states that in Switzerland gastric cancer is on the increase. His statistics show that the death-rate from cancer of the stomach for 1,000 inhabitants has increased from 0.61 per cent. in 1877 to 0.99 per cent. in 1886. In England, in 1840, the proportion of deaths from cancer to the total mortality-rate was 1 in 129. This rate has increased in forty years—1840-1880—to 1 in 28. The death-rate in that country, from cancer, is now about four times as great as it was fifty years ago. In twenty years—1870-1890—the Registrar-General's report showed an increase of 53 per cent[5].

The stomach and the uterus are the organs most frequently affected with primary cancer. In 31,482 cases of cancer collected by Welch[6], from various countries, the disease occurred in the stomach in 21.4 per cent., and in the uterus in 29.5 per cent. of the cases, showing that gastric cancer occurred in about one-fifth of all primary cases. Various authors estimate the mortality-rate from gastric cancer from 0.6 per cent. to 3.5 per cent. Welch, from New York statistics, estimates that in all cases of death above the age of 20, 1 in 100 is due to this cause. From an analysis of 1300 cases of gastric cancer, the same author estimates that in 60.8 per cent. of the cases the disease occupied the pylori region.

With these facts before us, we can see that neo plasms of the pyloric region have assumed a positio of great magnitude, and that the methods and result of treatment are of the greatest interest. The forms o cancer that may affect the stomach are, according t Orth[7]: 1. The cylindrical cell or adenocarcinoma 2. The soft glandular or medullary carcinoma. 3. Th hard glandular carcinoma or cirrhosis. 4. The mucou or colloid carcinoma.

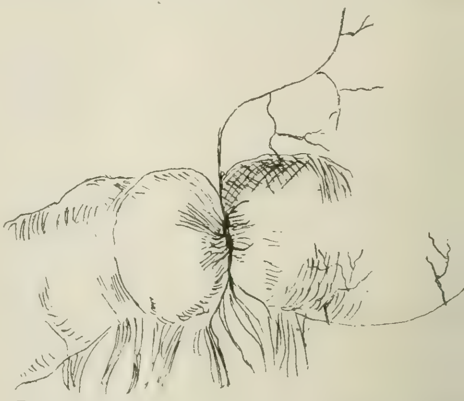

FIG. 2.—(Diagrammatic.) Murphy button in duodenum and lowe angle of stomach ready for approximation.

Of this number the cylindrical cell or adenocarcinom is the one most frequently found in the stomach. Al treatment directed toward a permanent cure of thes growths is, at the present time, limited to surgical procedure. Unfortunately, in cancer of the pylorus th diagnosis is not often made and surgical means instituted until obstructive symptoms manifest themselves or if the diagnosis is made early the patient will not sul mit to radical surgical treatment until life is made bu densome by obstructive troubles. The law regardin the prognosis in operative procedures of cancer in ge eral is especially applicable to cancer of the pyloru viz: the earlier the operation the better will be the r sult. Therefore, to insure more favorable resul than have heretofore been obtained, two things are in

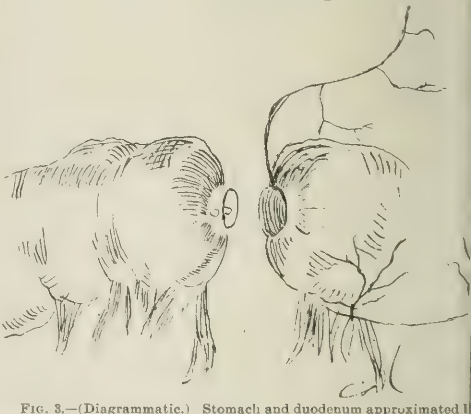

FIG. 3.—(Diagrammatic.) Stomach and duodenum approximated l means of the Murphy button.

perative: The perfection of our methods of diagnosis, and the education of the public to the point of thoroughly understanding the necessity of operating as soon as a diagnosis is made. Patients past the age of 40 should be impressed with the idea that a gastric derangement approaching a chronic condition should receive thorough study at the hands of the physician, to determine the presence of malignant disease if possible. If in the next ten years gastric disorders should receive as much study, with a view of determining the possibility of malignancy, as the subject of appendicitis has received in the last ten years, radical operations on the stomach would show a vast improvement in the percentage of recoveries.

The various operations designed to relieve obstruction of the pylorus are[8]: 1. Gastro-enterostomy, which is only a palliative measure. 2. Digital divulsion of the pylorus—Loreta's operation. 3. Pyloroplasty. 4. Pylorectomy or resection of the pylorus, of which there are three types: *a*, typical, total or circular pylorectomy. *b*, a typical pylorectomy, which consists of a combination of pylorectomy with gastro-enterostomy. *c*, partial pylorectomy.

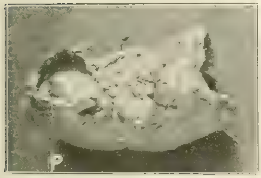

Fig. 4.—Photograph of pyloric end of stomach after lying in alcohol 1½ years. (¼ nat. size.) p. pyloric orifice.

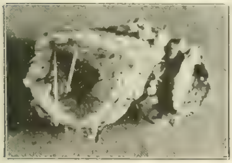

Fig. 5.—Photograph of pyloric end of stomach after lying in alcohol 1½ years; showing point of amputation. (¼ nat. size.)

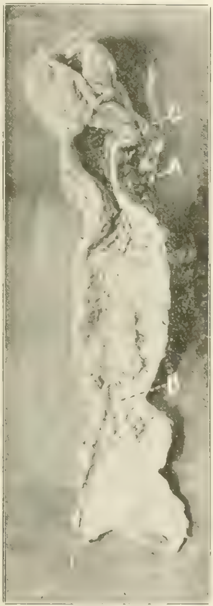

Fig. 6.—Photograph of a portion of the transverse colon. *a*, stricture near hepatic flexure; *b*, stricture near splenic flexure; *c*, point of perforation and lodgment of Murphy button.

*Gastroenterostomy**.—This operation was first devised by Wölfler, and consists in establishing a communication between the stomach and a portion of the intestine below the duodenum. It is merely a palliative measure and, according to some authorities, its rate of mortality is nearly as high as is that for pylorectomy, while the remote results are less favorable than in pylorectomy.

Digital Divulsion of Pylorus.—This procedure was first practiced by Loreta, and consists in opening the stomach and gradually forcing one or two fingers through the contracted orifice, or the dilation may be accomplished with instruments. The application of the operation is limited, and Haberkant, who collected 31 cases of Loreta's operation, reports a mortality of 38.7 per cent.

Pyloroplasty.—This operation originated with Von Heinecke, in March, 1886. Mikulicz, without knowledge of Von Heinecke's work, used the method in February, 1887. Since this date various surgeons have performed the operation, usually with satisfactory results. Dr. W. J. Mayo of Rochester, Minn., reported five cases[9] in 1897, on whom he had successfully performed pyloroplasty. The operation is especially applicable to non-malignant cicatricial stenosis. It is performed by making an incision through the cicatricial tissue on a line parallel with a line passing through the pyloric lumen. The wound is then pulled apart, which procedure widens the caliber of the pylorus, and the wound is then sutured together transversely.

Pylorectomy.—The first experimental work for pylorectomy was done by Merram, on dogs, in 1810. This work was farther advanced by Gussenbauer, Von Winniwarter, Kaiser and Czerny. Haberkant mentions a total extirpation of the stomach by Dr. Connor of Cincinnati, as a surgical curiosity, the patient dying before the operation was completed. Torelli, in 1878, did the first gastric resection, removing a portion of the stomach 16 cm. long in case of a stab wound with prolapse of the organ. Billroth, in the same year, healed a gastric fistula by exposing the stomach and suturing it. The first pylorectomy was done by Péan in 1879, and one was performed by Rydygier in 1880, but both patients died. In January, 1881, Billroth performed the first successful pylorectomy.

Total pylorectomy is one of the most formidable operations, and in the earlier cases the mortality-rate was extremely high. According to Senn,[10] in sixty-six cases death resulted in fifty. According to Tillmann[11] the mortality of the earlier operations ranged from 57.4 to 61.4 per cent.

In spite of these facts we believe that in the near future our methods of diagnosis and the technic of operating will be so advanced that pylorectomy will be performed with no greater mortality-rate than follows any operation in the abdominal cavity for a similar disease.

If we compare the early mortality statistics with those of later years we can already see the result of improved methods. While the mortality from 1881 to 1885 was 61.4 per cent., from 1886 to 1892 it was reduced to 34.3 per cent.[12] Haberkant[13] collected the statistics of 205 cases, and grouped them into two periods, the first—1881 to 1888—showed a mortality of 62.8 per cent., the second—1888 to 1895—one of 45.1 per cent. He estimates that for carcinoma this is a reduction from 65.4 to 42.8 per cent. and for benign pyloric stenosis a reduction from 42.8 to 27.7 per cent. In 1882, of thirteen cases of resection for carcinomata, all died; in 1893, of eight cases, all lived.

In judging of the value of this operation we must take into consideration the immediate and the remote results. As to immediate results, Haberkant[14] tabulates 379 cases of pylorectomy from the records of different operators; 191 recovered and 188 died. Of the total number operated on, 175 were for carcinoma, of which 130 recovered and 145 died. As to remote results, the same author's tables show that the cases recovering from the immediate effects of the operation died from one and one-half months to eight years afterward. One of Billroth's cases lived five and one-quarter years, one of Wölfler's five, and one of Kocher's five and one-third years. Rydygier reports a patient living in good health at the end of six years, during which time she had given birth to two children. One case of Ratimmow's was living at the end of eight years. It is true that at first thought these are not very encouraging statistics; yet when we take into careful consideration all the facts and circumstances relating to cases of this character, the operation of pylorectomy does not suffer as much by comparison with other operations for carcinoma as would at first appear.

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* For the description of the various operations on the stomach, and for statistics relating thereto, we are indebted to a number of authors, but especially to the work of Dr. John C. Hemmeter, on "Diseases of The Stomach."

The remote results of operations for carcinoma of the breast are, all things considered, but little better than those for pylorectomy. According to Tillmann[15], the average duration of life after the beginning of the disease, for those operated on for carcinoma of the breast, is 27.4 months, and for those not operated on, 20.5 months, a difference of but seven months in favor of the operation. Sibley, quoted by Senn, says that in 78 patients not operated on and 63 operated on for carcinoma of the breast, the latter lived one year and nine months longer than the former.

The number of permanent cures for mammary cancer, compared to the number of operations for this malady, are in reality but few; yet we do not hesitate to recommend it, for it is the only hope of prolonging life. In later years the percentage of supposed cures—the patients having no return of the disease after three years—is estimated, by various authors, at from 4.7 to 22.5 per cent. This improvement in the percentage of cures is due to the improved methods of operating—the thorough removal of lymphatic glands, fat and cellular tissues, in all cases from the axillary region. What then may we not expect in the future, in fact are, already beginning to realize from improved methods of diagnosis and more perfect technic in the operation of pylorectomy.

We have already observed that the mortality has been reduced in cancer cases, from 65.4 in 1879 to 42.8 per cent. in 1887. When we consider that it is only since the period of aseptic and antiseptic surgery that the abdominal cavity could be safely invaded, that the stomach is a vital organ in a comparatively inaccessible region, and that the operation is usually postponed until the patient is exhausted from the effects of obstruction, the wonder is, not that pylorectomy at the present time is a very fatal operation, but that it could be attended with success at all.

Diagnosis.—According to Jakob[16], the symptoms indicative of carcinoma of the stomach are: Occurring in persons between 40 and 60 years of age, insidious in outset; appetite is lost and strength fails; gastric derangement with pain, eructation and heartburn; later, vomiting of food and stagnation of food; eventually, hemorrhage with vomiting of matter having the appearance of coffee grounds; increased cachexia, absence of free hydrochloric acid, with the presence of considerable lactic acid in the gastric juice. Frequently a tumor may be felt in the region of the stomach, being slightly movable with respiration, if not adherent to the liver. The duration of the disease may be from six months to a year and a half.

It is a well-known fact that cancer cells do not multiply by simple division—fission—but by indirect division—karyokinesis. Therefore, it is suggested by Hemmeter that attempts be made to find in the stomach's contents, cells undergoing this indirect division. He says: "Whenever we find pieces of mucosa in which the glandular ducts are elongated and dilated and the cells present numerous karyokinetic figures and forms of mytosis, and where asymmetrical and hypochromatic forms are found, the possibility of the existence of carcinoma must suggest itself even when typical carcinoma cells are absent." He suggests feeding the patient per rectum, for forty-eight hours; washing out the stomach with normal saline solution, using a rubber stomach-tube with a sharp chisel-shaped edge around the lower opening, which is more likely to dislodge surface particles, then allow the detritus in the fluid to settle in a conical glass, or bring it down with a centrifuge for careful microscopic examination.

The presence of a large number of the long ball-bat-shaped Oppler-Boas bacilli in the gastric juice, supposed to be the cause of lactic acid formation, and the continual absence of free hydrochloric acid, while not pathognomonic of cancer, have considerable weight in determining the diagnosis. If a tissue shred is obtained with characteristic carcinoma cells, the diagnosis is positive.

REPORT OF CASE OF PYLORECTOMY.

In speaking of my case as a successful pylorectomy, I refer to the immediate and not to the remote results, for, although the case rapidly recovered from the operation, death occurred two months later in the peculiar manner hereafter related.

On June 10, 1897, I was consulted by Mrs. H. W. B., 28 years old, married and mother of two children, the oldest 3, and the youngest one year old, being born July 27, 1896. About two months before the birth of this child she began to have sharp pain in the region of right costal arch, radiating up the side to the right shoulder, and lasting about half an hour, or until relieved by medicine. These attacks occurred every two or three weeks up to the date of the birth of her child; after this the attacks still occurred, but were less severe, and the pain became localized in the right hypochondriac region. Three or four weeks after labor she discovered a tumor in the right hypochondriac region, which she described as being movable and sometimes difficult to find. Some weeks previous to this time she commenced to have stomach trouble after eating; this trouble gradually grew worse, and for six months nearly every meal has been vomited from one-half to three hours after eating. She has lost much flesh during the last ten months. Her normal weight was 125 pounds, present weight 89, a loss of 36 pounds.

The general appearance of the patient at this time suggested lack of nutrition, but not cachexia. Physical examination revealed a tumor lying under the umbilicus, the size, form and consistency of a kidney, the concave surface being turned downward and to the left. The kidney could be palpated on the left side, but not on the right. The tumor could be moved two or three inches toward the left, but much less though slightly to the right. The pelvic organs were normal.

Though the symptoms were those of pyloric obstruction, the fact that the patient was young for malignant trouble, was not cachectic, and that the right kidney could not be palpated, led me to question whether the kidney of the right side could have been displaced during pregnancy and afterward become fixed by adhesive inflammation, the origin of which might be in the bile tracts—the vomiting being caused through reflexes. Operation was declined.

Six weeks from this time the patient returned, more emaciated, the tumor more fixed, and willing to submit to an operation if it seemed advisable. She entered the hospital August 30, and on September 1, assisted by Drs. P. L. Markley, Frank H. Edwards and F. H. Culhane, I made an exploratory laparotomy, following it with a total extirpation of the pyloric end of the stomach, in the following manner: An abdominal incision was made, four inches in length, along the outer border of the right rectus muscle, the center of the incision being opposite the umbilicus, at which point the tumor was located. The tumor and a portion of the stomach were drawn out through the incision after some peritoneal adhesions were released, with the fingers, about the under surface of the growth and about the duodenum. There were no adhesions to the liver or pancreas. The omentum along the greater curvature of the stomach was ligated in sections, with double rows of strong catgut to a point a little beyond the neoplasm. The omentum was then cut away. The lesser omentum was treated in the same manner. The raw surfaces of the great omentum were brought together and buried by a continuous Lembert suture of catgut. The duodenum was compressed with Murphy's intestinal clamp and cut off near the pylorus. During the manipulations that followed, the clamp was displaced and considerable bile flowed into the peritoneal cavity. The duodenum was then simply plugged with sterilized gauze. A circular incision was made with a scalpel, around the stomach a little beyond the limits of the tumor, passing through the serous and muscular coats. The amputation through the mucous coat was completed with the scissors while the stomach was held by an assistant.

Although the patient had taken only liquid food for several days, when the amputation was made a number of chunks of meat and potato too large to enter a stomach-tube, and some liquid, poured out of the stomach and were received in a receptacle.

The mucous coat was brought together with a continuous Lembert suture of strong silk—No. 11 or 12—to within one inch of the lower angle. The serous and muscular coats were approximated with a continuous Lembert suture of formalized catgut. Over this was placed a continuous Lembert suture of fine catgut embracing only the serous coat. A purse-string suture was inserted around the opening left in the lower angle of the stomach, where the duodenum was to be attached, and the male half of a Murphy button inserted and secured in the usual way. Owing to a compensative hypertrophy of the muscular coats of the stomach, the tissues were very thick, so that the serous and muscular coats only were secured by the purse-string suture for the bite of the button. The other half of the button was placed in the duodenum, the purse-string suture tied, and the approximation made by pushing the button together. The abdominal wound was closed with silkworm gut sutures which included the peritoneum as well as the other tissues of the abdominal wall.

The tumor removed measured 5½ inches along the line of the greater curvature, a little more than four inches on a line passing through the lumen of the pylorus, and in thickness two inches. According to Gray, the stomach, when moderately distended, measures twelve inches in its longest diameter. Therefore, fully one-third of the stomach was removed by the operation.

The patient recovered rapidly from the operation. The highest temperature was on the evening of the day of operation—100.8° F. At noon on the following day the temperature was normal and remained practically so during her convalescence. The wound healed by first intention and the stitches were removed on the tenth day. On the eleventh day she sat up one hour, and on the fourteenth day walked out of the hospital and went by carriage to a friend's house, a distance of half a mile. The third week she returned to her home fifty miles away, by rail.

After-Treatment.—When the operation was completed the pulse was 140 and weak. Before leaving the table one pint of hot normal saline solution was given under each breast, and one quart injected into the colon through a long rectal tube, the hips being elevated. Strych. sulph., 1/20 gr. hypodermically every three or four hours, brandy hypodermically every half hour to every two hours as indicated by the pulse, and one pint of normal saline by enema as required for thirst, was ordered. No opiates were required for pain, and only once was an anodyne given—chloral hydrate, grs. xv, per rectum—to produce sleep. Nutrition was maintained for four days, by rectal feeding; liquid food was given on the fourth and light solid food on the tenth day.

For a month and a half the patient continued to improve rapidly and engaged in her usual occupation. Faithful watch had been kept for the Murphy button, but it had not been procured. On October 15, 1½ months after the operation, the husband wrote that the patient had gained 6½ pounds, but was having griping pains in the bowels, and during these pains a lump could sometimes be felt in the abdomen. On the night of the 19th, after returning from a party, she ate heartily of raw oysters, and soon after was taken with an intense pain in the abdomen, followed by all the symptoms of perforating peritonitis. I was out of town and Drs. Windmueller and Pryne of Woodstock, attended, but I saw the patient on the 22d. Her temperature was 103 F., pulse 130, abdomen greatly distended, and she was too weak for operation. I expected the condition to prove fatal in twenty-four hours. At the expiration of this time, however, her physicians reported some improvement, and I opened the abdomen in the median line below the umbilicus, letting out several quarts of fluid, the color and consistency of chyme, with some pus. Drainage was maintained with gauze. On the 26th, two days after, Dr. Windmueller reported that the patient seemed better: "Pulse 120, full, fairly strong; temperature 98.6 F.; tongue clean; complains of having an appetite." Two days later she died from exhaustion.

Post-Mortem.—Considerable pus and fluid was found in the abdomen. The intestines were matted together and covered with lymph exudate. Union of the stomach coats and of the duodenum to the stomach was perfect. A large perforation was found in the transverse colon, a few inches beyond the hepatic flexure. At this point the Murphy button was found, held there by a tight stricture of the intestine. A second stricture was revealed near the splenic flexure, through which could be passed an object about the size of a lead-pencil.

Regarding the character of the pyloric tumor and the strictures of the colon, I submit the following:

KLEBS' PATHOLOGICAL LABORATORY,
CHICAGO, Sept. 27, 1899.

In reply to your favor will say that: 1. The growth and stricture are carcinomatous. 2. The histologic picture shows an abundance of stroma with but few epithelial cells distributed in the same. They must have been of slow growth.

[Signed.] F. R. ZEIT, Assistant Pathologist.

In conclusion I would observe that:

1. Cancer is one of the most potent factors in the causation of death with a tendency to constantly increase in frequency of occurrence.

2. Gastric cancer occurs in about one-fifth of all primary cases.

3. In gastric cancer the pyloric region is affected in 60 per cent. of the cases.

4. The treatment of gastric cancer directed toward a permanent cure is, in the present state of our knowledge, limited wholly to surgical methods.

5. As early total extirpation of malignant growths with the hope of permanent cure, is the goal toward which we are constantly striving, and as these growths in gastric cancer occur at the pyloric region in 60 per cent. of the cases, it would seem to follow as a natural conclusion that pylorectomy would be the treatment most frequently employed for the cure of this malady.

6. Inasmuch as early diagnosis is the greatest requisite for directing proper radical treatment, the internist and the surgeon should turn their best efforts in this direction.

7. If the operation of pylorectomy be performed before obstructive symptoms manifest themselves and before the occurrence of metastasis, the immediate results will be as favorable as in any other abdominal work, and the remote results as good as in extirpation of carcinoma of the breast.

TRAUMATISMS OF THE MALE URETHRA—WITH REPORTS OF TWO CASES.*

BY CHARLES W. HITCHCOCK, M.D.
DETROIT, MICH.

To even comment on the wisdom and nicety with which are protected the canals and organs on the integrity of which life itself depends, is almost trite, and nothing more justly elicits such admiration than the anatomic structure and situation of the urinary organs and tract, from the kidney to and including the urethra.

Another trite saying, "it never rains but pours," so frequently illustrated in the physician's experience in the successive occurrence of similar cases, was exemplified in my practice recently by two cases of traumatic rupture of the male urethra, within two weeks of each other, whereas I shall probably not see another case for years to come, since, happily, this canal is seldom the site of violent traumatisms, and their seriousness may well be said to be in direct proportion to their rarity.

Though I run the risk here of "carrying coals to Newcastle," still it may not be wholly unprofitable to briefly call to mind the anatomy of the urethra, which tubular canal is commonly from eight to nine inches in length and is divided, anatomically, into: 1, the prostatic portion, the widest and most dilatable part of the canal, passing through the prostate gland and about one and one-half inches in length; 2, the membranous portion, extending from the apex of the prostate to the bulb of the corpus spongiosum and perforating the dense deep perineal fascia, or triangular ligament—the narrowest part of the canal, and very short, only measuring about three-quarters of an inch along the upper wall, and about one-half inch along its lower surface; 3, the spongy or penile portion, about six inches in length and further divided into the bulbous and pendulous portions. The closeness of the lateral attachment of the deep superficial fascia and its mersion posteriorly with the deep perineal fascia is to be noted, since this commonly forces the escape of urine extravasated in the perineum forward into the loose tissue of the scrotum and penis. Clothed in three coats—a mucous, a muscular and an erectile—this important passage is so well situated relatively to other portions of the anatomy—protected by the symphysis pubis above and the thighs and rami ischii laterally, and so movable withal—that it ordinarily performs its functions undisturbed by trauma, save such as youthful indiscretion or the superfluous zeal of its possessor may invite, but now and then its precincts are invaded—and incised, lacerated and contused, or punctured wounds may result; but if the urethra escape without complete rupture at some point of either the anterior or posterior wall, the injury may be of trifling importance.

In a study of over two hundred cases of urethral rupture (Kaufmann, quoted by White and Martin), falling astride was assigned as the cause in 80 per cent., perineal blows in 12 per cent., being run over by vehicles in 4 per cent., and being unseated on the pommel of a saddle in 4 per cent.

Much depends on the line of force, whether it be lateral or vertical. If the former, the injury will be from compression against one of the rami of the ischium; if the latter, from compression against the symphysis pubis. Here the lower wall of the urethra usually ruptures first, and may alone be torn, though there is contusion of the surrounding structures, the bulb, the perineal structures, and the attachment of the cavernous bodies. The membranous and bulbous portions are the parts which suffer most frequently.

My two cases are as follows:

Case 1.—Jan. 4, 1899, I was called to see Charles C., who had been injured the day before. I found an active, wiry, muscular man of 41, who, while employed in rolling a heavy iron coping in which car-wheels are molded had received a blow on the perineum. He was working in a position astride of the coping, and as it had projecting lugs on its perimeter, it rolled jerkily from one lug to another, one of them, as it came over, catching him in the perineum. He experienced no great pain at the time, but bled quite freely from the penis that night.

I found him, at about 10:30 a.m., with a temperature of 102 F. and a pulse of 110, hard and wiry. There was considerable perineal tenderness, but no swelling or other objective evidence save the blood escaping from the penis. He had passed several ounces of urine, but in small quantities and with considerable pain following. A small gum catheter was finally passed with difficulty, but very little urine was obtained. There was evidently a solution of continuity of the urethral wall—the mucous coat at least—at about the bulbo-membranous junction.

At 6 p.m., hot applications having been kept on the perineum and salol and quinin having been given in appropriate doses throughout the day, he was easy, with temperature 100 F. and pulse 86. There was no pain except on urination, when there was much tenesmus. All urine passed was very bloody.

There was no swelling in the perineum, the tenderness seemed less, and there was no other possible sign of extravasation save that the temperature the second morning was 102 F., and the pulse 88. He was comfortable throughout the day, excepting that he had a chill that afternoon, which was reported to me the next day, the third day after the injury, when his temperature was 101.5 F. and pulse 116, with perineal tenderness much less and less pain on urination. He was evacuating about a normal quantity of urine, which was still quite bloody and was now slightly ammoniacal in odor. He seemed comfortable, cheerful, and had no chill.

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* Read before the Surgical Section of the Michigan State Medical Society.

The fourth day after injury, he was seen somewhat hurriedly and was found feeling particularly good. I have no record of pulse or temperature, but I recall that he was sure that "he had no fever and was all right." He was doing and feeling so well that he was not seen on Sunday, the fifth day after the injury, but telephoned me along in the evening that his penis and scrotum were slightly swollen, the first positive sign of extravasation.

Early on the morning of the sixth day, he was found somewhat anxious, the scrotum and penis quite edematous, temperature 103 F., pulse 120, and was told that operation was inevitable, but refused it until consultation could be had. Dr. Robbins saw him with me at 6 p. m., when the pulse was 112 and temperature 102.6 F., the urethra passable to catheter, but with difficulty. The doctor concurred in the advice already given and kindly assisted me in the operation, which was done at St. Mary's Hospital, that evening.

On cutting through the deep superficial fascia and nto the fibers of the accelerator urinæ, a small clot about the size of a large pea marked the especial point of hemorrhage at about the bulbo-membranous junction. Extending both above and below this point was a ragged wound of the lower urethral wall. The urethra was not now passable, either from above or through the perineal wound, to catheter or sound, and so incision was made o allow of free opening into the bladder, and the catheter was passed through the penis and left in situ for the irst four days. The patient made an uninterrupted recovery and at the end of four weeks left the hospital, till having a small fistulous opening through which ome urine escaped, but this soon closed entirely and he s now as well as ever, coming to my office twice a week o have a sound passed. He once failed to come for ight days, and the contraction was such that, whereas I ordinarily pass a French No. 24 with ease, I could only then pass with difficulty a No. 70, gradually dilatng up to 24, and causing him considerable hemorrhage.

Case 2.—January 18, just two weeks after my first visit to Case 1, I was called to see H. B., a laborer, 42, a healthy German who, the day previous, had missed his footing on some iron work, one foot slipping through n such a way as to throw his perineum in violent conact with an upright piece. He finished the day's work, ut noticed that the first urine passed was bloody, and during the night he had some trouble in passing urine nd experienced a little pain.

I saw him about 11 a. m., when his pulse was 76, temerature 99.5 F. On passing a sterile, soft-rubber catheter, it encountered a roughness at about the membranous portion, slipped by it, and readily passed in up to the end, but withdrew no urine. Moreover, it slipped in with such ease as to make it evident that it had passed out of the urethra. I at once told him the seriousness of his condition, advising his going to a hospital for mmediate operation. He consented and I operated at p. m. the same day at Grace Hospital.

When prepared for operation, the perineum and sides of both thighs presented areas of ecchymosis. The usual ncision for external perineal urethrotomy, in "the line of safety," was made, and just underneath the deep ayer of the superficial fascia, I cut through the middle of a clot about the size of a small walnut, which, when vacuated, exposed the site of the urethral wound, the xtent of which—about one inch in length—was only evealed by forcibly parting the tissues. A sound was asily passed and sutures were so placed as to comletely close the urethral wound, including all its coats. The sound was then withdrawn, a catheter passed, the sutures tied, and the external wound closed, except at its lower part, with the sutures of silkworm gut.

The catheter was left in situ for four days, then withdrawn, and all urine passed readily through the natural channel. Had it not been for an infection which I attributed to the chromicized catgut, and which gave no trouble after the pus was promptly evacuated on the sixth day, I should have had an entire closure of both wounds, perineal and urethral, by first intention, and an earlier complete recovery. Some urine escaped through the perineum, after evacuation of the abscess, but at the end of three weeks it was all discharged by the penis and the perineal wound was almost entirely closed to the surface. Recovery was uninterrupted, and he now comes to the office once a week to have a sound passed. The only evidence of much tendency to contraction here was evident after a two weeks' absence, when the No. 24, usually passed with ease, was passed only with some difficulty and occasioned some hemorrhage.

These are cases likely to occur in the practice of any physician, and present some practical points as to treatment. The escape of blood indicates a laceration of the mucous membrane, but other evidence must be sought to learn the extent and depth of the lesion. In Case 1, the obstructed urethra made me suspicious of rupture through the entire wall and yet the fact that the canal was passable, though with a little difficulty, and that there was but little perineal tenderness and no swelling, and no evidence of extravasation, made me doubt the depth of the wound and led me to an expectant plan of treatment rather than to insistence on immediate operation.

The one strong indication as to probability of rupture entirely through the wall was the persistently high temperature, and I question whether this should not have been my guide to earlier operation, say as early as the first or second day after injury; for I take it that, so soon as you are satisfied as to complete laceration of the urethral wall, there can be no doubt as to the course to pursue, in spite of the fact that even deep wounds of internal urethrotomies heal kindly without much disturbance. I seriously question whether an earlier operation would not have secured more prompt healing, less formation of cicatricial tissue, and so less tendency to subsequent contraction.

Doubtless, both these patients will need, for the rest of their lives, the occasional passage of a sound to ensure their bodily comfort and peace of mind. Pressure, hot applications, urinary antiseptics, etc., are recommended even by the best authorities as the proper line of treatment in cases uncomplicated by retention, but it seems to me that if in any case of injury to the urethra, we can establish a diagnosis of laceration through the three coats of the canal, it may be fairly assumed that the expectant plan is not a wise one to follow, and that early operation is far better both for the present and ultimate good of the patient.

The necessity for careful asepsis, the least manipulation of such injuries consistent with reasonable diagnostic information, sterile sounds, catheters, etc., has not been emphasized above, as these are matters, the importance of which goes without saying.

Both of these patients are now pursuing their ordinary avocations and experience no need of any further use of the sound.

132 Henry St.

The main building of Mercy Hospital, Des Moines, Iowa, was dedicated November 15. It is 121x50 feet and cost $70,000.

SURGICAL TREATMENT OF UTERINE DISPLACEMENTS, RESULTING FROM LACERATION OF THE PELVIC FLOOR.*

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DENVER, COLO.

My colleague just preceding has spoken of the surgical treatment of lacerations of the pelvic floor which in itself is oftentimes sufficient to correct the resulting uterine displacement. The subject allotted to me, undoubtedly, is that especial surgical treatment demanded in those cases in which plastic operations are not deemed sufficient, and it therefore becomes necessary to adopt more radical procedures.

The uterine displacements which may demand operation are retrodisplacement and prolapse. Prolapse being simply a condition following or secondary to retrodisplacement, as the uterus in all cases before it can become prolapsed must be in a state of retroversion, we shall confine our remarks to the radical means of treating retrodisplacement of the uterus. Various operations have been devised to meet the indications for treatment of this condition, the principal of which are ventrosuspension of the uterus, which is also called ventrofixation, hysterorraphy or hysteropexy; and Alexander's operation. To these two, which may be called classic operations, may also be added vaginal fixation, and an operation recommended by Aubean of France, and later by Pryor of New York, which we will speak of later.

It may not be out of place to give the indications for the radical treatment of this condition, for all cases do not demand such measures. The question then naturally arises: Is a retrodisplacement an abnormal one and an indication for operation?

It is a recognized fact that the normal uterus is freely movable and constantly changing its position according to its environments. Baldy, in a recent discussion on this subject, stated that "there is no normal position of the uterus, it being a movable organ," and that "if the supposed displacement produces no symptoms, that position is normal to that woman." It may be stated then that all retrodisplacements do not call for radical treatment, but that those cases in which the subjective symptoms can be traced to the displacement *per se* should be treated accordingly.

Each of the operations mentioned above has its indications and contraindications, so that a careful study of each case will determine the operation suitable.

VENTROSUSPENSION.

It may be an interesting historic fact to mention that Dr. Thomas H. Hawkins, one of the members of the Colorado State Medical Society, was the first to perform this operation, done on the third day of January, 1883, in this city. The tubes and ovaries were removed at the same time, and this was the first operation of this kind done in Colorado. Later the operation was performed in Germany, and by Howard Kelly of Baltimore, who published a paper reporting his first case, April 25, 1885. The priority of ventrosuspension therefore belongs to Colorado.

The field of this operation is larger than that of any of the others. Its indications are a retrodisplaced uterus, adherent or not, producing symptoms; when the uterus is large and heavy and particularly when coi plicated by unilateral or bilateral pelvic disease.

The advantages of the operation are that it requir but one incision; it is easily performed and takes but few moments, and the adnexæ can be examined and r moved if necessary, or treated according to indicatio

Various objections to ventrosuspension have bee raised by different operators, none of which to my mi are pertinent. An increased danger of abortion and dif cult labor have been mentioned without, I think, mu foundation. The percentage of abortion in women w have not received such operations is large enough, as find mentioned in various books of obstetrics that least 20 per cent. of all pregnancies end in abortio On the other hand, in statistics of seventy-five cas operated on at Johns Hopkins Hospital, fourteen afte ward became pregnant, and only one is reported as ha ing miscarried, and then only after violent dancin It is true that a number in this series had some a dominal pain during the months of gestation, b whether this was due to the fixation or not, I am not pr pared to say.

Dr. Chas. P. Noble, in an exhaustive article, repor 808 cases by American operators, in which 56 afterwa became pregnant, and only 6 aborted. Complicatio at labor were as follows: forceps delivery, 3; Por operation, 1; retained placenta, 2; uncontrollable vo iting—labor induced—1. He draws the following d ductions: 1. That women subjected to this operati are less apt than others to become pregnant. 2. Th pregnancy and labor, as a rule, are uncomplicated. That uterine inertia is not infrequently met with. That serious or insuperable obstruction to labor may produced if the fundus and anterior wall of the uter are imprisoned below the point of attachment betwe the uterus and abdominal wall. These conclusions ce tainly speak for themselves and need no comment.

There are various methods, by as many different ope ators, of performing ventrosuspension. Some use bu ied sutures, others use through-and-through removab ones, and still others use so-called living sutures. Pro ably the best and most satisfactory operation is that a vocated by Dr. Kelly, but slightly modified, in whic after the preliminary work, the uterus is suspend from the peritoneum by two chromicized catgut sutur which pass through the uterine muscle just posteri to the crest of the fundus. The mortality from th operation is practically *nil,* as it is by far the mo simple abdominal operation performed. On examini the woman a year or so after the operation, if it has be properly done, "the uterus will be found lying in ea anteflexion with its posterior surface 3 to 5 cm. dista from the anterior abdominal wall."

OPERATIONS ON ROUND LIGAMENTS.

Alexander's operation is also a suspensory operati the round ligaments being used to hold the uterus in permanent anteverted position. The round ligame normally are simply guy ropes preventing too mu backward movement of the uterus, and are in no w suspensory until the uterus has become prolapsed. Al ander's operation is becoming more popular every day operators become acquainted with its advantages. T indication for this operation is clearly defined and a pathologically retrodisplaced uterus, which is not herent and in which there are no complications, such a tumor of the uterus or adhesion and inflammation the uterine appendages. The operation should be p formed as recommended by Edebohls, who has proba racticed it oftener than any other operator in this country. Some of the disadvantages of Alexander's operation are the difficulty of finding and isolating the round igaments, the inequality and possible friability of the igaments, and two incisions, thus a double liability of ernia.

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* Read in a Symposium at the recent meeting of the Colorado State Medical Society.

The round ligaments are also shortened by intra-bdominal operations which were devised by Wiley and Dudley, both of these consisting in making a median ncision, the round ligaments found within the abdomnal cavity and folded on themselves and held in this osition by suitable sutures. Neither have any advantge over either of the above-mentioned operations.

VAGINAL FIXATION.

This operation should be mentioned only to be conemned. It is impracticable; it is difficult to perform, nd it puts the uterus in an unnatural position. It is n operation which has frequently been done abroad, ut in this country has not met with much favor.

Aubean's and Pryor's operation, as mentioned preiously, consists in opening through Douglas' pouch, reaking up adhesions and replacing the uterus. Gauze acking is introduced below and back of the uterus; his remains *in situ* for several days, when it is removed. New adhesions form posteriorly to the cervix, thus holdng the cervix up and tilting the body forward. This peration may be of value in some cases, especially where the abdominal operation is objected to on account f the scar resulting, otherwise the operation of ventrosuspension or Alexander's operation should be performed according to indications.

Therapeutics.

Treatment of Eczema.

Dr. J. N. Hyde, in "Twentieth Century Practice," recommends the following prescriptions:

℞. Pulv. amyli........................ʒi
Pulv. zinci oxidi........................ʒii
Pulv. camphoræ........................ʒss

Make an impalpable powder. Sig. For external use.

The Lassar paste is very commonly employed, and is to be recommended. Put up according to the following, the author has found it particularly good:

℞. Zinci oxidi........................ʒii
Talc........................ʒiii iv
Acidi salicylici........................gr. v-x
Vaselin........................℥ss

Make an impalpable paste. Sig. For external use.

The glycerin jellies and varnishes, as suggested by Pick, of Prague, may be medicated in any way so that any desired ingredient may be applied to the skin, as for example:

℞. Gelatin........................15 parts
Zinc oxid........................10 parts
Glycerin........................30 parts
Water........................50 parts

Mix by gradual heating. When used, melt and apply with a brush.

The Treatment of Gout.

Cholagogues and alkalies are as necessary in the treatment of this disease as in acute articular rheumatism. Indeed the same treatment, both internal and local, should be adopted, save the administration of salicylic acid, for which colchicum should be substituted.

The preparations of colchicum vary greatly in quality, and, in order to derive the fullest benefit from this valuable drug, only preparations from the most reliable pharmacists should be employed. The value of this remedy is more apparent in acute than in chronic gout, and in the first attacks than in succeeding ones. Chronic gout as well as chronic rheumatism, yields better to a combination of colchicum and potassium iodid than to colchicum alone. In giving the drug it is best to avoid, if possible, any untoward manifestations, such as vomiting and purging. The initial dose, therefore, should be small, that it may occasion no gastric disturbance.

The following prescriptions containing colchicum have been recommended for gout:

℞. Magnesii sulphatis........................ʒii
Potassii bicarbonatis........................gr. xv
Tinct. colchici sem........................m. x
Infusi buchu........................℥i

Ft. haustus. Sig. To be taken every four or six hours, followed by a large draught of water, not too cold.

—*Fothergill.*

℞. Vini colchici sem........................ʒiii
Spt. ammon. aromat........................ʒxiii
M. Sig. One teaspoonful every three hours.

—*Bartholow.*

℞. Vini colchici sem........................ʒiv
Potassii iodidi........................ʒii
Liq. potassæ........................℥iss
Syrupi zingiberis........................℥ii
M. Sig. Teaspoonful twice daily in warm water.

—*Hodgson.*

℞. Ext. digitalis........................gr. iiiss
Quininæ hydrobrom........................gr. xxvii
Colchici sem........................gr. viii
M. Ft. pil No. xii. Sig. One morning and night.

—*Becquerel.*

℞. Tinct. stramonii........................4 parts
Tinct. colchici sem........................6 parts
Tinct. guaiaci........................60 parts
M. Sig. Teaspoonful three times a day in milk.

—*Gayle.*

℞. Hydrarg. chloridi mitis
Aloes
Pulv. ipecac
Ext. colchici rad., āā........................ʒi
M. Divide into sixty pills. Sig. One three times daily.

—*White.*

℞. Lithii benzoatis........................ʒiiss
Sodii phosphatis........................ʒv
Tinct. colchici sem........................ʒiiss
Aquæ cinnamomi, q.s., ad........................ʒiv
M. Sig. Dessertspoonful two or three times a day.

—*Butler.*

℞. Euonymin
Leptandrin. āā........................gr. ½
Podophyllin........................gr. ¼
Pulv. ipecac
Ext. aloes
Hydrarg. chloridi mitis
Ext. colchici rad., āā........................gr. i
M. For one pill. One every three or four hours until free purgation ensues.

Ipecac in Feeble Digestion.

Mathieu (*La Presse Med.*) thinks that ipecac is one of the best remedies to excite the stomach when the motor action is feeble. He prescribes it in minute doses. Following are two of his favorite prescriptions:

℞. Tinct. ipecac........................ʒi
Tinct. calumbæ
Tinct. gentianæ, āā........................ʒiii
M. Sig. Take 5 to 10 drops in a little water after eating, and repeat the dose in a half hour, and again in an hour.

℞. Tinct. ipecac
Saccharin........................gr. i
Menthol........................gr. iss.
Alcohol (80 per cent.)........................℥viss.
Syrupi simplicis........................℥iiss.
M. Sig. Two to four teaspoonfuls in divided doses after eating.

Local Applications of Tuberculin in Lupus.

Unna has been applying tuberculin in a soap rubbed into lupus lesions and announces that it produces the valuable characteristic local reaction without any of the inconvenient general effect. This treatment does not cure, but it constitutes a preliminary which arrests the progress of the lesions and renders them more amenable to the usual methods of treatment. The soap is made by the incomplete saponification of lard with caustic potash, with which 5 to 20 per cent. tuberculin is incorporated. The application is absolutely harmless. —*Semaine Med.*, October 11.

Treatment of Pernicious Malarial Fevers.

Mousseos writes from Asia Minor to the Paris Academy of Medicine that he has found subcutaneous injections of quinin most effective in all cases of pernicious fever except the hemoglobinuric form and in cases of extreme prostration or collapse he supplements it with two to three hundred grams of artificial serum, responding to the urgent necessity of re-establishing the capillary circulation, as in cholera. He has found that hemoglobinuria is extremely rare if French quinin is used and that the hemoglobinuria produced by quinin is only transient and never an actual hemoglobinuric bilious fever, which he treats with methylene blue: .5 to 1 gram, per os. This medication has also frequently been successful in his experience in simple malarial fevers.

Mercurial Ointment in Pustula Maligna.

G. B. Reina states in a communication to the *Gazzetta degli Ospedale* of October 15, that he has been very successful in curing forty cases of pustula maligna with mercurial ointment alone, with no disfiguring scar such as follows cauterization.

Treatment of Pneumonia.

In cases of uncomplicated pneumonia recovery may occur without any treatment whatever, yet it is necessary to place the patient under the most favorable hygienic surroundings. Concerning diet, a quart of milk or broth taken every twenty-four hours is amply sufficient, but he may be allowed a small quantity of fruit, and liberal amounts of water as thirst demands.

Elimination should be promoted as rapidly as possible by means of cathartics, diuretics and diaphoretics.

A thick cotton jacket should be applied to the whole trunk, maintaining it firmly in place and covering it with oiled silk. This should remain on during the entire course of the disease save when an occasional examiuation of the chest is imperative.

The vascular excitement and congestion of the first stage may be allayed by the following:

℞. Tinct. aconiti..........................m. viii
Spiritus etheris nitrosi....................ʒv
Tinct. opii camph..........................ʒiii
Liq. ammon. acetatis, q.s., ad...............℥iv

M. Sig. Dessertspoonful in water every hour.

The pleuritic pain attending pneumonia is so distressing at times that it may be necessary to resort to opiates, preferably morphin and atropin or coniin hydrobromate 1/12 to ½ gr. hypodermically. Should insomnia, delirium and marked nervous symptoms manifest themselves, trional, paraldehyde, or hyoscin may be given.

Should the temperature be persistently high—104 or 105—hydropathy is indicated. It matters little how the cold water be applied, only let it be applied—either by sponging, cold applications, rubbing with ice, or ice coil.

Medicinal antipyretics, as such, are to be disparaged, though, of course, they may be used as a specific in complicated conditions—as, for example, quinin in complicated malaria, or salicylates in rheumatism, but even here with caution.

One of the chief indications, however, in the treatment of pneumonia is to support the heart, which, if inclined to be feeble, with low arterial tension, is best done by digitalis given in full doses. Strychnin, however, is more uniformly valuable, and to obtain the best results it should be given with a free hand, especially in very severe cases, preferably by hypodermic injection.

No specific dose can be prescribed, but the administration should be pushed to the extreme limit of safety. The dose of strychnin, however, must be regulated by the action of the heart. Doses varying from 1/32 gr., three or four times a day to 1/15 gr. every two hours have been given. We believe that alcohol is an unsafe drug in this disease, save in great emergencies that call for the use of a powerful diffusible stimulant, to compel the heart to increased action in order to tide the patient over a critical period. For this purpose the following is useful:

℞. Spiritus frumenti.......................ʒiv-℥i
Spiritus ammon, aromat.......................ʒi
Spiritus camphoræ..........................m. xv
Spiritus etheris comp......................m. xv

M. Sig. Give at one dose in water, and repeat in thirty minutes if necessary.

In desperate cases, when the patient is cyanotic and struggling for breath, the inhalation of oxygen is invaluable.

For cough, drugs are indicated which serve to lessen the viscidity of the expectoration—such as the ammonium preparations, preferably the carbonate—and as a sedative expectorant, cannabis indica may be employed in preference to opium.

Prescriptions like the following, or modifications of them, may be used advantageously:

℞. Ammonii carbonatis..........................ʒi
Ext. cannabis indicæ fluidi................m. xlv
Syrupi senegæ.................................ʒiv
Syrupi glycyrrhizæ, q.s., ad..................℥ii

M. Sig. Teaspoonful every two or three hours.

℞. Ammonii chloridi............................ʒi
Spiritus etheris nitrosi......................ʒii
Syrupi ipecacuanhæ............................ʒiv
Liq. ammon acetatis...........................℥ii
Syrupi pruni virg., q.s., ad..................℥iv

M. Sig. Dessertspoonful in water every two hours.

The following prescriptions have been recommended in different stages of the disease. C. J. MacGuire recommends:

℞. Liq. ammon. acetatis.........................℥i
Tinct. opii camph.............................ʒvi
Spir. etheris nitrosi.........................ʒiv
Aquæ laurocerasi..............................℥ss
Syr. tolutani.................................℥ss
Aquæ camphoræ, q.s., ad.......................℥iv

M. Sig. Dessertspoonful every two hours in water.

In the clearing-up stages:

R. Eucalyptol..............................m. xlv
Ammonii iodid...............................ʒiiss
Vini picis liq.
Syrupi tolutani, āā............................℥i

M. Sig. One teaspoonful in water every three to four hours.

Caution—Avoid ammonium iodid if phthisis be developing.—*Tuffs.*

℞. Caffeinæ iodosalicylatis....................ʒss
Ammonii carbonatis..........................ʒiss
Elix. simplicis, q.s., ad.....................℥iii

M. Sig. Teaspoonful every three hours.

—*Lorenze.*

To establish free secretion of all organs of the system:

℞. Tinct. aconiti
Tinct. bryoniæ, āā.........................gtt. x
Tinct. digitalis...............................ʒi
Potassii nitratis.............................ʒss
Ext. ipecac fluidi.........................gtt. x
Syr. pruni virginianæ, q.s., ad...............℥iv

M. Sig. For adults, teaspoonful diluted every hour until patient is better; then only as seems to be required, say every three hours while fever lasts.—*Vandoren.*

For hypodermic injection:

℞. Sodii benzoatis........................gr. xxiv
Caffeinæ (Merck).........................gr. xxxvi
Aquæ destil..................................ʒiss

Dose fiften minims.

Dissolve with heat, and warm the bottle before injecting.—*Adolph Zeh.*

As a heart tonic, especially in asthenic cases:

℞. Strychninæ.............................gr. 1/3
Pulv. camphoræ.................................ʒi
Sacchari lactis.............................gr. xx

M. et ft. capsule No. xii. Sig. One every four or six hours.

The camphor increases the action of the right heart and lessens the tendency to delirium.—*E. G. Tuffs.*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

University Medical Magazine (Philadelphia), November.

1.— Complicated Cataract. S. D. Risley.
2.—*Clinical Notes from Gynecological Service of Howard Hospital. B. C. Hirst.
3.—*Simple Palliative Operation Applicable to Obstructing Cancer of Pylorus too Extensive for Complete Removal. Edward Martin.
4.— Acute Cholecystitis. A. C. Wood.
5.—*Sun Fever, A Hitherto Unreported Tropical Malady. W. H. Bell.
6.— American Physician as a Prescriber of Medicine. Emil King.
7.— Pyloroplasty for Cicatricial Contractions; Recovery. J. W. White.

American Journal of Insanity, October.

8.—*Presidential Address: The Teaching of Psychiatry. Henry M. Hurd.
9.—*Remarks on Mental Contagion and Infection, Inherited or Acquired; with consideration of Some Measures of Prevention of Insanity and Degeneracy. Richard Dewey.
10.— Judicial Errors in Lunacy. Geo. Villeneuve and E. P. Chagnon.
11.—*Thyroid Extract: Review of Results Obtained in Treatment of 1032 Collected Cases of Insanity. Wm. Mabon and W. L. Babcock.
12.—*Relations of Renal Disease to Mental Derangement. W. L. Worcester.
13.— Imagination in Relation to Renal Disease. Robert H. Chase.
14.— Some Inconsistencies, Legal and Medical, about Insanity. J. T. Searcy
15.—*Practical Value of Prophylaxis in Mental Disease. A. B. Richardson.
16.— Psychology of Criminals, and a Plea for Elevation of Medical Service in Prisons. J. B. Chapin.
17.—*Hematoporphyrinuria, with Report of Case Following Use of Trional. Robert E. Ruedy.

Clinical Review (Chicago), November.

18.— Diseases of Kidney, Amenable to Surgical Treatment. Christian Fenger.
19.— Acute Anterior Poliomyelitis of Adult; Acute Anterior Spinal Paralysis and Acute Polyneuritis. H. M. Lyman.
20.— Lectures on Gunshot Wounds. C. B. Nancrede.
21.— Some Unusual Cases in Gynecology. C. W. Oviatt.

Archives of Pediatrics (N. Y.), November.

22.—*Some Clinical Features of Rheumatoid Arthritis. R. T. Taylor and S. H. McKim.
23.—*Case of Meningitis Due to Typhoid Bacillus. A. H. Wentworth.
24.—*Vaccinoid. F. Forchheimer.
25.—*Incontinence of Urine in Children. Francis Huber.
26.— New Binaural Stethoscope for Examination of Infants and Children. Henry Koplik.
27.— Scurvy in an Infant of Six Weeks. Floyd M. Crandall.
28.— Position of Antenatal Pathology. J. W. Ballantyne.
29.— Case of Acute Iodoform Poisoning. B. B. Mosher.
30.— Subnormal Temperature during an Attack of Malaria. Charles G. Lucas.
31.— Rheumatism in Young Infants. Ewing Marshall.

St. Louis Clinique, November.

32.— Ectopic Gestation, Rupture of Right Tube and Uterus—Abdominal Hysterectomy with Recovery. M. E. Titterington.

Journal of Nervous and Mental Diseases (N. Y.), November.

33.—*Rigidity of the Spinal Column. Philip Zenner.
34.— Alveolar Sarcoma of Right Middle Fossa of Skull. Morris J. Lewis.
35.— Case of Internal Hemorrhagic Pachymeningitis in Child of 9 Years, with Changes in Nerve-Cells. Wm. G. Spiller and D. J. McCarthy
36.— Sensory Disturbances in Epilepsy and Hysteria. E. D. Fisher.
37.— Purulent Encephalitis and Cerebral Abscess in the New-Born, Resulting from Infection Through the Umbilicus. Guy Hinsdale.

Denver Medical Times, November.

38.—*Estimation of Corpuscular Richness of Blood: New Hematokrit and New Technic. Judson Daland.
39.— Points in Autointoxication and Blood Morphology, to be Considered in Preparation of Patient for Surgical Operation. P. D. Keogh.
40.—*Use of Suprarenal Capsule Extract in Surgery of Ear, Nose and Throat. W. W. Bulette.
41.— General and Local Infection of Bacterium Coli, With Report of Cases. J. N. Hall.
42.—*Treatment of Chorea. S. D. Hopkins.
43.— Report of Case of Appendicitis. Hough and Hosmer.
44.—*A Study of Salophen. Edward C. Hill.

New England Medical Monthly (Danbury, Conn.), November.

45.— Cystitis, the Cause of Diseases of the Urinary Organs and Emunctories due, Possibly More Often Than is Generally Realized, to Presence of Uric Acid in the Urine. W. H. Vail.
46.— Case of Tetanus Successfully Treated with Antitetanic Serum. P. A. Hilbert.
47.—*Association of Hysteria with Organic Disease of the Nervous System. Philip Zenner.
48.— Beta-Eucain as a Local Anesthetic. George G. Hamilton.
49.— Non-Operative Treatment of Appendicitis. T. J. Shuell.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), November.

50.— Some Cases of Bilateral and Linear Nevus, Sometimes Called "Nevus Unius Lateris." Isadore Dyer.
51.—*Treatment of Scabies. S. Sherwell.

Medical Standard (Chicago), November.

52.— Address in Medicine: Typhoid Fever. J. A. Witherspoon.
53.—*Gall-Stones, with Report of Cases. I. B. Perkins.
54.—*Management of Labor in Abnormal Pelves. C. K. Fleming.
55.— Case of Strangulated Hernia Through an Omental Slit. W. L. Brown.

Medical Bulletin (Philadelphia), November.

56.— Introductory Address Delivered at Medico-Chirurgical College. C. W. Burr.
57.— Tinea Capitis; Psoriasis. J. V. Shoemaker.
58.—*Menstruation Following Supravaginal Hysterectomy. W. E. Ashton.
59.— Heroin. Isaac Ott.

Medical Council (Philadelphia), November.

60.— The Eye: How It Sees, Its Defects and Their Cure with Glasses A. H. P. Leuf.
61.— Vicarious Menstruation. Benj. Edson.
62.— Carbolic Injections in Cellulitis and Other Conditions. E. L. Paulding
63.—*Treatment of Inebriety. T. D. Crothers.
64.— Uranalysis and Nephritis. Irvin Lindenberger.
65.— Thiosinamin. A. W. Smith.
66.— Treatment of Diseases of Nose, Throat and Ear by the Family Physician. Nasal Hemorrhage. E. B. Gleason.

National Medical Review (Washington, D. C.), November.

67.— Four Cases of Appendicitis. W. C. Borden.

Pacific Medical Journal (San Francisco), November.

68.—*Use of Dry, Hot Air in Treatment of Rheumatism and Rheumatic Pains. E. Calderon.
69.— My Conversion from Conservatism to Early Surgical Interference in Appendicitis. Maj. A. C. Girard.
70.— Pharmacy, the Handmaid of Medicine. W. J. Jackson.
71.—*Some Observations on Periodical Dipsomania and Some of Its Remote Causes. P. C. Remondino.
72.— Hernia Following Abdominal Operations; Its Prevention and Cure. A. Lapthorn Smith.

Yale Medical Journal (New Haven, Conn.), November.

73.—*An Unusually Complicated Case. Paul F. Mundé.
74.—*Medical Shock or "Heart Failure." O. T. Osborne.
75.—*Contribution to Relation of Pancreatitis to General Surgery. W. H. Carmalt.
76.— Treatment of Phimosis. L. W. Bacon, Jr.

Louisville Monthly Journal of Medicine and Surgery, November.

77.— Significance of Obstinate Constipation as a Symptom. J. G Sherrill.
78.—*Some Remarks on Coley's Treatment of Malignant Growths. F. T. Merriwether.
79 — Amenorrhea. Edward Speidel.
80.— Fistula in Ano. Bernard Asman.
81.— Coincidence of Malaria to Mosquito Life: Suggestive Treatment of Malaria: New Stains for Plasmodium. L. H. Warner.

North Carolina Medical Journal (Charlotte) November, 5.

82.— Cerebrospinal Meningitis. Joseph W. Irwin.
83.— Treatment of Acute Dyspeptic Diarrhea. Robt. C. Kenner.

Columbus Medical Journal, October 20.

84.—*Treatment and Feeding of Typhoid Fever. E. F. Wilson.
85.—*Intolerant Ulcerations of the Rectum. S. B. Taylor.
86.—*Anesthesia. W. B. Patton.

Medical Fortnightly (St. Louis, Mo), November 1.

87.— Medical Missions; What Form of Medical Missionary Work Produces Best Evangelistic Results; viz: Itinerating, Dispensary or Hospital? H. T. Whitney.
88.—*Association of Hysteria with Organic Disease of Nervous System. Philip Zenner.
89.— Notes from Surgical Section of Mississippi Valley Medical Association. Carl E. Black.
90.— Degenerate Hybridism; The Anglo-Saxon Eurasian. A. S. Ashmead.

Virginia Medical Semi-Monthly (Richmond), October 27.

91.— Needed Legislation with Reference to Non-Graduates Before Medical Examining Boards, etc. Jacob Michaux.
92.— The Ideal Physician. Livius Lankford.
93.— Syphilis and Life Insurance. Allen H. Kelch.
94 — Prevention of Smallpox. T. M. Baird.
95.—*Therapy of Nitrites. J. N. Upshur.
96.— Case of Septicemia: Treatment. B. J. A. McDonald.
97.— The New and the Old. Ralcy H. Bell.
98.—*Further Observations on Treatment of Abdominal Viscera Through Colon. F. B. Turck.
99.— *Modern Surgical Treatment of Hemorrhoids. G. M. Blech.

Medical News (N. Y.), November 18.

100.—*Treatment of Gonorrhea in the Female. A. Ravogli.
101.—*Experimental Study of Aspirin, a New Salicylic-Acid Preparation. F. C. Floeckinger.
102.—*Some Cases Bearing on Peripheral Causation of Epilepsy. Frank H. Edsall.
103.— Raynaud's Disease; with Report of Case Resulting in Death. William H. Dukeman.

New York Medical Journal, November 18.

104.—*Interesting Case of Syphilitic Leucoderma, or Dungeon Scurvy, Closely Simulating Anesthetic Macular Leprosy. Joseph A. Silverman.
105.—*An Unusual Accident. Ewing Marshall.
106.— Further Experimental Researches on Effects of Different Anesthetics on the Kidneys. Robert Coleman Kemp.
107.—*Relation of Pathologic Conditions in the Ethmoid Region of the Nose and Asthma. Treatment. F. H. Bosworth.
108.—*Sheldon Murder Trial. A Review of Medical Evidence Relating to Pistol-Shot Wounds of the Head. Charles Phelps.

Medical Record (N. Y.), November 18.

109.—*Tabes Dorsalis: Its Pathology, Diagnosis and Treatment. Charles L. Dana.
110.—*Pathogenesis of Functional Nervous Diseases and Their Prophylactic Indication. John Punton.
111.—*Ophthalmic Contributions. David Webster.
112.—*Necessity for State Aid in Pulmonary Tuberculosis. George W. Goler.

Boston Medical and Surgical Journal, November 16.

113.—*An Object Lesson in Military Sanitation. Chas. R. Greenleaf.
114.—*Tentage for Tropical Service. Edward L. Munson.
115.—*Treatment of Post-Partum Hemorrhage. J. Z. Currie.
116.—*Value of Urotropin in Treatment of Certain Forms of Genito-Urinary Diseases. J. M. Thompson.
117.— Acute Hemorrhagic Gangrenous Pancreatitis; Operation on Second and Twenty-eighth Days; Death. Chas. L. Scudder.
118.— A Case which Baffled Diagnosis. Benj. R. Symonds.

Maryland Medical Journal (Baltimore), November 18.

119.— Diagnosis of Eye Diseases by External Examinations. Hiram Woods, Jr.

Medical Review (St. Louis, Mo.), November 18.

120.— Some Interesting Genito-Urinary Specimens. Bransford Lewis.
121.— Some Points in the Anatomy. Physiology and Pathology of the Fore-Brain. Arthur E. Mink.

Cincinnati Lancet-Clinic, November 18.

122.—*Rupture of the Hydronephrotic Kidney. J. C. Sexton.
123.— The Gall-Bladder. D. E. Spahr.

Philadelphia Medical Journal, November 18.

124.—*Remarks on Present Mild Type of Smallpox; Symptoms and Diagnosis. Wm. M. Welch.
125.—*Report of Holguin Epidemic of Smallpox, with Brief History of Its Inception, Progress and Methods of Control. Epidemiologic Deductions of 1200 Cases Isolated. R. S. Woodson.
126.— Pathogenesis of Appendicitis. Aloysius O. J. Kelly.
127.—*Pathology and Therapy of Cancer, with Special Reference to Cancer of Stomach. A. C. Bernays.
128.—*Unusual Case of Acute Rheumatic Fever. Julius L. Salinger.
129.— Pneumonia Following a Case of Sporadic Cerebrospinal Meningitis. Frank H. Murdock.

AMERICAN.

2. **Gynecology Notes.**—Hirst reports a case of congenital absence of the vagina, surgically supplied; rectovulvar fistula, probably due to violent coitus; ovarian cyst, infected and inflamed, removed in the puerperium; fibromyoma of uterus simulating ovarian cyst, and tubal gestation, retained for seven months.

3. **Cancer of the Pylorus.**—Martin reports a case of pyloric cancer in which he performed the following operation as a palliative measure. The cancer involved the greater and lesser omentums and post-perineal glands. The operation was the introduction of a rubber tube of the caliber of a No. 40 French sound, which was laid on the surface of the first part of the duodenum and six interrupted catgut sutures so placed that by drawing them tight the portion of the tube in contact with the bowel was completely covered by a plication of the wall drawn up on each side. Between the fifth and sixth sutures a slit was made through the bowel wall, and through this slit six inches of the tube was passed downward. The sutures were then tied, thus forming a long oblique channel not likely to permit leakage of the intestinal contents. The tube was fastened to the gut by a catgut suture passed through its wall. The peritoneum of the bowels at the point where the tube emerged from the channel made for it was sutured to the parietal peritoneum and the wound was closed. Healing was prompt and uninterrupted. The patient has since been fed through this tube at regular intervals, with digested food, and has steadily gained in flesh and strength. He has been largely relieved of his vomiting, and has had much relief from his exhausting pain. The author thinks that the following conclusions are warranted in such cases of inoperable pyloric cancer: 1. When cancer has invaded the stomach, its course is hastened, and the pain it causes is increased by the congestion and motion inseparable from gastric digestion. Moreover, the contact of the ingesta and of the gastric juice acts as direct irritants to ulcerating surfaces, and adds to exhaustion and anemia by encouraging hemorrhage. 2. The palliative treatment of gastric cancer has for its end the relief of pain and vomiting, and the prolongation of life. 3. This is best attained by excluding the stomach from the digestive process. A common cause of death in obstructive pyloric cancer is starvation due to the failure of the gastric contents to reach the intestine. This may be remedied somewhat uncertainly by gastroenterostomy, but even if this operation attain such an end, the stomach is still subject to the constantly recurring congestion of digestion. 4. Since the chemical and mechanical changes wrought on food by the stomach can be perfectly imitated without the body, there is every reason to believe, and clinical evidence to prove, that when food thus prepared is introduced into the upper bowel the functions of the stomach can be dispensed with entirely without harm to the patient. 5. Food thus prepared can be introduced through an artificial opening made into the duodenum. This opening can be made easily, bloodlessly, and rapidly, and hence with less shock than can any form of communication between the stomach and bowel. 6. To prevent leakage, unless there is need of great haste, this is best made as in Witzel's method of gastrostomy, i. e., by folding a tube in the wall of the bowel, Lembert sutures being used for this purpose. At the bottom of the tunnel thus formed the tube is passed through a slit into the bowel lumen. 7. In obstructing pyloric carcinoma of the stomach, duodenostomy is always to be preferred to gastroenterostomy. Even in cancer of the fundus beyond the reach of a radical cure duodenostomy will probably relieve pain and hemorrhage and delay the course of the infiltration. 8. After duodenostomy, unirritating antiseptic and analgesic lavage of the stomach should form a part of the palliative treatment. 9. This operation is also indicated in intractable ulcer of the stomach.

5. **Sun Fever.**—Bell describes what he considers a hitherto unreported tropical disease, which consists in a sort of rapid febrile attack with swelling of the face, edema of the conjunctiva, impaired vision and some photophobia. The fever reaches its height at 102 or 103, on the second day, with soreness and dull aching of the back and legs and the digestive functions in an atonic condition. There is loss of appetite, and considerable tympanitis with gaseous eructations. The tongue is slightly furred, the urine negative. The duration of the trouble is about six or seven days, and marked exhaustion follows. The treatment is conducted on the general principles of all non-specific fevers; rest, darkened quarters, local lotions for the swelling, and antipyretics, stomachics and nerve sedatives. Later some tonic treatment should be given, continued for some time during convalescence. He does not consider the affection serious.

8.—See abstract in Journal, June 10, p. 1325.

9.—Ibid.

11. **Thyroid Extract.**—Thyroid extract and its therapeutic use in insanity is taken up by Mabon and Babcock, who have gathered statistics in various hospitals, which, as well as the hitherto published reports, are here analyzed. They also give a tabulated statement of sixty-one cases treated with thyroid extract in the St. Lawrence State Hospital, under their care, together with blood examinations in a number of cases. Their conclusions are: 1. The dose of the extract depends entirely on the individual case. In some, 25 gr. three times a day will be necessary to bring about a circulatory or temperature reaction; while in others the same results may be had with the use of 5 gr. t. i. d. Each case must be a law unto itself. 2. It is essential that the patient should be placed in bed to obtain the best results, and he should be continued there during the entire treatment and for a week following its discontinuance. 3. The treatment should be continued for at least thirty days. 4. We should not be discouraged by failure in the first administration, but should resort to two, three, or more trials, if necessary. 5. The most gratifying results in thyroid treatment are to be obtained in cases of acute mania and melancholia with prolonged attacks, puerperal and climacteric insanities, stuporous states and primary dementia, particularly where these forms of mental alienation do not respond to the usual methods of treatment. 6. A high temperature-reaction is not essential, as the average maximum temperature in the recovered cases among men was 99.6 degrees. 7. Physical improvement is the outcome in most cases, whether mental improvement takes place or not. 8. The proportion of individuals to recover under thyroid treatment and then relapse is less than the proportion who relapse after recovery from other methods of treatment. In their series of cases, only one patient who recovered has relapsed.

12. **Renal Disease and Insanity.**—Worcester reports an analysis of a study of the relation of renal and mental disease made, by him, largely in the Danvers Hospital for the In-

sane. The conclusions to which he has been provisionally led are: Renal disease in some degree is very common among the insane, but it is by no means certain that it is very much more common among them than in the population at large at corresponding ages. Cases in which insanity is due simply to disease of the kidneys are rather infrequent in hospitals for the insane. Taking the term "Bright's disease" in its broadest significance, however, it is probably one of the most common causes, if not the most common, of mental derangement.

15.—See abstract in Journal, June 10, p. 1325.

17. **Hematoporphyrinuria.**—A case is here reported of this condition following the use of trional, and the literature of the subject is discussed by Ruedy. He concludes with the following: 1. Hematoporphyrinuria occurs occasionally in a number of different pathologic conditions, and even physiologically; more frequently in hemorrhages into the alimentary canal and in lead-poisoning; and, finally, after the use of sulphonal and applied substances. 2. As a diagnostic and prognostic sign it is of little value, except in connection with sulphonal poisoning, where it becomes of very grave prognostic import, especially in women. 3. Its origin is obscure, may not always be the same, and in sulphonal intoxication seems to be associated with a badly damaged renal epithelium, probably of a secondary nature. 4. It is a condition that is more easily prevented than cured.

22. **Rheumatoid Arthritis.**—Taylor and McKim describe, with skiagraphic illustrations, a case of rheumatoid arthritis in a child aged 8, and discuss the diagnosis and distinctions between it and other conditions, especially arthritis deformans and the partial or monoarticular form.

23. **Meningitis from Typhoid Bacilli.**—Wentworth reports a case of meningitis with fatal termination, in which Eberth's bacillus was found in the cerebrospinal fluid obtained by lumbar puncture before death. He remarks on the limited number of cases previously reported, and gives a bibliography of those where more or less extensive bacteriologic examinations were made.

24. **Vaccinoid.**—Forchheimer describes the condition which has been called false or spurious vaccinia, and which he believes is always a modified form of vaccinia. He holds that it protects against variola, though less perfectly than normal vaccination. Its occurrence is usually due to faulty methods, rarely to increased immunity, and when it occurs in primary vaccination, the latter should be repeated until true vaccination is produced or positive evidence of immunity exists. When an epidemic of variola exists, the occurrence of vaccinoid, either in primary vaccination or in revaccination, should be followed by the latter.

25. **Incontinence of Urine**—Huber discusses this condition and shows that it is met with in many varied states, but there is one common factor in all cases, viz.: a neurotic constitution or family history. In all cases careful search should be made for a possible cause, such as small meatus, preputial adhesions and inflammation, constipation, pin worms, etc. He also mentions the cases occurring in children suffering from adenoids, and thinks a careful study of this phase of the subject is desirable. In a large proportion, if the cause can be discovered the chances of cure are good. The treatment must depend largely on the cause, and when this can not be discovered general tonic measures, encouragement of good habits and prevention of bad ones. Belladonna and strychnin are sometimes valuable. Fluids should be restricted, particularly in the evening, and a light early supper given, the bowels and bladder evacuated before going to bed, a full dose of tincture of belladonna given at bedtime, a tonic of strychnin and iron three times daily for some time, on general principles, and the child may be called once or twice in the night to pass urine. His paper ends with a tabulated statement of the causes of this condition.

33. **Rigidity of Spinal Column.**—Three cases of this condition, first described by Bechterew in 1893, and characterized by rigidity and curvature of the spine, are described by Zenner, who also gives quite a thorough discussion of the literature of the disorder. The common feature in all the cases was rigidity of either a large portion or the whole of the spinal column, involving the costo-vertebral joints in most, as shown by abdominal breathing. The curve is also a common feature, though absent in three cases reported by Strumpell, Baumler and Koehler. Spinal root symptoms were not marked, and in general pain was very moderate or slight. In Zenner's first two cases the trouble appeared to be primarily muscular, and he suggests that if muscular contraction be the primary condition in these, it is not improbable that the bony ankylosis subsequently occurs, either like that occurring in lateral curvature or from a resulting inflammation in the vertebræ or intervertebral discs.

38.—See abstract in Journal, August 12, p. 413.

40. **Suprarenal Capsule Extract.**—Bulette reports his experience with the extract of suprarenal capsule in ear, nose and throat surgery. He finds that it is one of the most valuable products that has been offered to the profession in recent years, and he has never seen any unpleasant systemic effects from its use, but, on the other hand, has noticed fewer cases of cocain toxemia than formerly, though cocain is used with it. The preparation should always be freshly prepared with boiling distilled water or hot saturated solution of boric acid, adding 5 to 10 gr. of the extract to the dram, stirred for five minutes and filtered. It can then be applied with a spray or a saturated pledget, and in five or ten minutes the tissues become almost bleached.

42. **Treatment of Chorea.**—The treatment of chorea in children, suggested by Hopkins, consists in the use of antipyrin in connection with the ordinary arsenic and iron treatment. The patient, to begin with, receives as many grains of antipyrin at bed-time as he is years old, and the dose is increased every night until the twitching stops. At the beginning of the treatment he commences with one drop of Fowler's solution, diluted, after each meal, and increases the dose one drop each day until the point of tolerance is reached, then it is discontinued for two or three days until the unpleasant symptoms have subsided, then repeated as before. As soon as the twitching stops, the antipyrin at bed-time is discontinued and syrup of iodid of iron in three to ten drop doses, according to age, is given after each meal. Absolute rest in bed is insisted on. If the patient has cardiac dilatation or valvular disease, antipyrin is not used, but phenacetin may be, and when fever is present he uses choral in moderate doses. He reports six cases.

44. **Salophen.**—According to Hill: "A careful and impartial summary of all the clinical evidence proves indisputably that up to the present this remedy is our best, safest and most eligible antirheumatic, and that it is also an efficient antineuralgic and intestinal antiseptic." He has used the drug in several hundred cases and almost always with benefit and no untoward symptoms. He reports ten cases briefly.

47.—See abstract in Journal, October 28, ¶ 169, p. 1088. This paper is also printed elsewhere: see title 88, p. 1347.

51. **Treatment of Scabies.**—The ordinarily recommended treatment of scabies with ointments is condemned by Sherwell, who treats the disorder, first by a bath followed, except in infants, with sapolio lightly used, and then light rubbing of the body and limbs with sulphur lotion. Half a teaspoonful is too much, and no excess in friction is required. The bed linen and underclothing is changed and powdered sulphur disseminated over the former. By repeating the powdering of the bed every other or third night, and the bathing, and changing clothing in the same way at about the same intervals for a week, a cure is ordinarily effected. Any mild perfume will suffice to cover the odor.

53.—See abstract in Journal, August 19, p. 481.

54.—Ibid, August 12, p. 414.

58. **Menstruation Following Hysterectomy.**—Ashton reports a case in which, after a primary ovariotomy for cancerous ovaries, which did not relieve pain nor prevent menstruation, a supravaginal hysterectomy was performed, with uninterrupted recovery. Menstruation has not been absent except for two months after the operation. The blood must come from the cervical canal as the uterus was removed close to the vaginal junction and the upper portion closed with peritoneum. After the ovariotomy it became more frequent, occurring every two weeks, and since the later operation it has been regular every four or five weeks, at first lasting three to four days, but latterly rather less.

63. **Inebriety.**—The theory that inebriety is a disease is, as is well known, maintained by Crothers, who gives here his views as regards its causation and proper treatment, and reports several cases. His ideas on the subject are summarized in the following propositions: 1. Alcohol is becoming more and more prominent as a recognized factor in the causation of disease, and in the prognosis and treatment. 2. The disease of inebriety has become so well established, that its practical recognition and treatment by the family physician should follow in all cases. 3. The inebriate is literally both poisoned and starved, and common sense principles should apply. There is no mystery and no doubt of results, if the means are used. 4. The possibility of cure is established by facts beyond question. The obstacles are, failure of early recognition and the use of unsuitable, quackish means. 5. The gold and other cures are only the application of common remedies, which every physician should use with greater success. 6. Every case can be restored, and many permanently cured, by the intelligent co-operation of the family and asylum physicians. Both home and asylum treatment are found invaluable in most instances. 7. The successful cure and prevention of inebriety is a medical problem, the solution of which will open up a new field of practice that promises as great possibilities as any other department of medicine.

68. **Dry Hot Air in Rheumatism.**—Calderon eulogizes the hot-air treatment for rheumatism and rheumatic pains, and reports four cases in which he has employed the Betz apparatus for this purpose with success. The higher the temperature he finds the better are the results, and he gives directions as to the methods of treatment.

71. **Dipsomania.**—Remondino describes the condition of dipsomania, and gives some remarkable cases of causation from various sources. He has found that in one of his own patients it alternated with or was displaced by gouty rheumatism, the dipsomania itself having been the successor of migraine attacks, and in another case the intervention of bleeding hemorrhoids cured the disease. He maintains that the condition has the same basis as these disorders: gout, rheumatism, etc., and that liquor, instead of being the prime cause is only a secondary consideration.

73. **A Complicated Case.**—The case reported by Mundé is one of ruptured ectopic pregnancy, correctly diagnosed but complicated with nephrolithiasis, with stone impacted in the ureter, pyelonephritis and cholelithiasis. Three laparotomies were performed, also colpo-ureterotomy and nephrectomy before the patient finally succumbed.

74. **Heart Failure.**—Osborne pleads for the use of the term "medical shock" for heart failure, maintaining that it is the counterpart of surgical shock, which no one questions. It is primarily a vasomotor paralysis with a congestion of the greater part of the blood in the abdominal veins. The treatment should be on the same general lines as that of surgical shock: hypodermic medication with cardiac and vasomotor remedies, nutrient enemata, high rectal injections of hot water, saline transfusion, etc. He thinks that in many cases, notwithstanding care in diagnosis, we may be at a loss for a better term for cause of death than medical shock.

75. **Pancreatitis.**—Carmalt calls attention to a condition of abdominal disease simulating intestinal obstruction or advanced appendicitis, but which on laparotomy proved to be an entirely different state of affairs, viz.: disease of the pancreas. The cases he reports were those of suppurative pancreatitis, but he discusses all the forms of inflammation of the organ, the hemorrhagic, and the gangrenous. In all, disseminated fat necrosis is characteristic. Two cases of successful operation for diagnosed suppurative pancreatitis have been reported, and others in which the diagnosis was not made until after the operation. Hemorrhagic pancreatitis has a less favorable record, only one case of success having been reported. The gangrenous form has likewise a bad record. It is to be hoped that with better knowledge of the condition, and consequent more accurate diagnosis, better results may be had in future.

78. **Coley's Treatment for Malignant Growths.**—Meriwether reports four cases of malignant disease treated with Coley's serum, three of them sarcoma and one adenoma carcinoma. In one case of sarcoma he had apparent success. In the other cases he thinks that if the treatment could have been persisted in, at least benefit would have been derived, though the carcinoma could hardly be expected to give a very favorable result.

84. **Typhoid Fever: Treatment and Feeding.**—The treatment of typhoid fever is divided into two parts, hygienic and medical. As regards the former, Wilson insists on close confinement to bed, thorough sponging twice a day, cleansing of the mouth and teeth and general absolute cleanliness, disinfection of the clothes, stools and urine, allowing no food nor water to be used after standing in the sick-room, but allowing the patient all the water desired, and in the comatose condition giving it freely. He differs from the majority as regards feeding, in most cases giving soft food rather than liquid, and when convalescence sets in, finely chopped tender meat. When there is much trouble with the bowels, and excessive tympanitis, he does confine the diet to milk, given carefully and generally predigested. The medical treatment must be individual. He uses intestinal antiseptics, cleansing the bowels by laxatives or mild purges, and using enemas of ice water when the temperature goes above 102.5 F. For diarrhea, bismuth subnitrate has served him well. In cases of perforation or hemorrhage, morphin is the only drug he has found useful, and he thinks that many cases of perforation will recover without operation with its free use. In the third week of the fever, if the tongue becomes distressingly dry, two drops of Fowler's solution every three hours will act like magic in relieving the symptoms. He advises against using nauseating fever mixtures, coal-tar derivatives, diuretics and large doses of quinin. As for results, he can report one series of 96 cases with 2 deaths, and a second series under the same treatment, of 45 cases with no deaths, these including all cases treated during the past eight years.

85.—See abstract in Journal, October 14, p. 977.

86. **Anesthesia.**—Patton insists on the importance of the proper administration of anesthesia, maintaining that it demands no less skill on the part of the one who administers it than the operation itself. He claims that natural fitness as well as experience is required to become a successful anesthetizer.

88.—See above, ¶ 47.

95. **Therapy of the Nitrites.**—The therapeutic actions of nitrite of amyl and nitroglycerin are here described by Upshur. After noticing their physiologic action, antagonists, etc., he remarks on use of nitroglycerin in epilepsy, its effect in cutting short the cold state of intermittent fever and in some forms of neuralgia, its antidotal action to strychnin and its value in reflex vomiting in some cases of gastralgia and in angina pectoris. He also speaks of the use of nitrite of amyl in relieving the muscular spasms of neuralgic dysmenorrhea, and suggests that nitroglycerin may be useful in overcoming the spasms of hour-glass uterine contractions, especially when due to improper use of ergot. We also have in it a potent remedy for spasms of renal and hepatic colic and of the stomach and bowels. He has also seen marked relief from the use of nitroglycerin in acute Bright's disease. The contraindication is, most prominently, high temperature. No agent, he says, can be safely administered to sustain heart action and avert death from heart failure whose physiologic action is known to be first, depression of the medullary center, consequent threatened paralysis of respiration and markedly paralysis of the muscular system. It must be remembered that the frequent and continued use of these remedies produces tolerance, and also that there are marked idiosyncrasies toward them in individuals. Nitroglycerin is the one agent that acts more promptly by the mouth than when given hypodermically.

98.—See abstract in Journal, October 28, p. 1104.

99.—Ibid, October 21, p. 977.

100. **Treatment of Gonorrhea in Female.**—After first noticing the symptoms and pathology of the condition, Ravogli remarks that the disease must be treated as in the male, in the locality where it developed. The object is to remove the secretions of the mucous membranes promptly and often, and destroy the germs in the locality. The first is accomplished by frequent irrigations with antiseptic solutions; the second by applications capable of causing a superficial necrosis of the epithelium, thereby reaching the gonococci which enter the

epithelial cells and reach the underlying layers of the mucous membrane. For the first of these he uses a solution of bichlorid, 1 to 5000, or permanganate of potash of equal strength. These are easily given by the patient herself, with a fountain syringe, and will remove the secretions and diminish the inflammation, but will not touch the urethra or the condition of the uterus. Every two to three days, therefore, he inserts a bivalve speculum and thoroughly irrigates the vagina, and then carefully removes the secretions from the cervix. When this is abundant he uses a Talley or Haynes douche tube as far as the internal os, and washes out with a mild stream of the same solution, also in the urethra when symptoms of urethritis are present. He does not find it useful to fill up the bladder by the Janet method. Under ordinary circumstances he seldom uses irrigation to the cavity of the uterus unless the discharge is very profuse, but uses instillations with a 1 per cent. solution of protargol. The most effective antigonorrheal remedies are ichthyol and the silver preparations. In acute cases ichthyol usually readily cures. He finds protargol is the best remedy and latterly, since he has used this, he has not had to curette in nearly as many cases as formerly. He thinks it safer than formerly in the treatment of gonorrheal endometritis. In cases of gonorrhea complicating the puerperium, he insists on absolute rest in bed, morphin to relieve pain and hot applications to the hypogastrium, with warm antiseptic irrigations, reserving strong applications until the puerperium is over.

101. **Aspirin.**—Aspirin or acetyl salicylic acid is prepared by the action of acetic anhydrid on salicylic acid. Floeckinger finds it a reliable substitute for salicylate of soda, being more agreeable to take and disturbing the stomach less, while its effects are not less marked. It is not split up into its components until it reaches the intestines, except in cases of extreme gastric acidity. In physiologic doses the uncomfortable effects of salicylate of soda, such as tinnitus, etc., do not occur. He gives it preferably in 15 grain doses, in wafers, and he has had excellent results in dry pleurisy, acute rheumatism, and polyarthritis. He concludes that aspirin is a most valuable substitute for salicylate of sodium for the following reasons: 1. Its agreeable taste. 2. Its freedom from irritating effects on the stomach. 3. The absence of tinnitus aurium after the administration of physiologic doses. 4. The absence of cardiac depression. 5. The fact that it does not impair the appetite, even during prolonged use.

102. **Peripheral Causation of Epilepsy.**—Edsall reports four cases of epilepsy, in all of which there were eye troubles that were relieved by proper glasses. In the first case the cortical lesion was not so deep seated nor extensive that the doing away with the peripheral cause could not give relief. The patient did well after the use of glasses and the establishment of menstruation. In the second case the condition was only temporarily relieved. The third was not followed up fully, but was probably much like the first. In the last case the epilepsy was unmanageable, though he had expected good results. He thinks that the advocates of eye strain as a cause of epilepsy have overdone the matter and he expresses himself as follows: Asthenopia, due to refractive error, leaving out the question of whether it is causative or not, may at least determine an epileptic seizure. Muscular inequalities may produce asthenopia; therefore, why is it not possible for muscular asthenopia to determine such a seizure? The tenotomists in many instances have ridden their hobby so hard that they have been unable to read the signs by the wayside. It is a well-known fact that in many epileptics it is possible to bring about a temporary improvement simply by a change from one medicine to another. Analogously, it is possible that a tenotomy would temporarily benefit such as these remarkably; and, moreover, it is just possible that, as a few years since some apt simulators succeeded in convincing even as bright minds as are in the so-called "School of Nancy," that mental suggestion, hand in hand with the application of a bottle containing a given drug, would produce the characteristic effects of that drug, so also it is possible that the statistics in connection with tenotomies in the cure of epilepsy may be similarly impaired. Personally, he does not believe that eye strain from any cause is responsible for the status epilepticus.

104. **Syphilitic Leucoderma.**—Silverman reports a case of a journalist who had suffered harsh treatment and confinement by the insurgents in Cuba, and in consequence had acquired leucoderma or dungeon scurvy on an old syphilitic basis, which had been mistaken for leprosy.

105. **An Unusual Accident.**—The case reported by Marshall is that of a boy who was caught in some machinery and had his whole arm with the scapula and over half of the clavicle torn entirely away from his body, the entire shoulder and arm being left on the field. The remaining fragment of the clavicle having a sharp end, it was rounded off with bone forceps and the subclavian artery ligated, no other vessels requiring it. The parts were thoroughly cleansed with a 1 to 5000 solution of bichlorid, and sewed up with silk. On removal of the dressing, on the fourth day, there was little inflammation, and perfect union existed over nearly the whole extent when the stitches were removed. On the eighth day he sat up, on the tenth he walked across the floor and on the twentieth he came to the office and then walked half a mile to another physician's office where an X-ray picture was taken.

107. **Nasal Disease and Asthma.**—Bosworth's theory of asthma is that it is a vasomotor paresis of the blood-vessels of the mucous membrane of the bronchial tubes, rather than a spasm of the bronchial muscular fibers. He thinks that clinical observation has taught us that polypoid degeneration of the mucous membrane of the nose and nasal polypi are clearly symptoms of ethmoiditis. We often see, however, cases of asthma relieved by the removal of polypi, and the asthma recurs. This is due to the fact that the polypi are only symptoms of the ethmoid disease which still remains. He considers polypoid degeneration of the middle turbinate is almost pathognomonic of a similar affection of the lining of the ethmoid cells. The ethmoidal orifices become occluded by a mild inflammation which causes distension of the soft parts, crowding the middle turbinated body into the nose against the septum. He does not know why neurotic symptoms are so closely associated with ethmoidal inflammation, but we have ample clinical evidence that the vasomotor nerve-centers must be very close to the ethmoidal cells. The first thing that occurs with their disease is vasomotor disturbance of the nasal membrane, and we have sneezing and asthma. In treating these patients, we must not be content with removing only the polypi but we must attack the cell cavities—a delicate matter—and for this he prefers to use a burr rather than any other instrument. In cases where the polypi are situated in the superior meatus, we find most difficulty. Ethmoiditis is a common affection. A great many cases of cold in the head are simply this. When recognized in connection with asthma, especially if temporarily relieved by the local application of cocain, we can give a good prognosis and promise to cure by treatment of the ethmoidal cells. Only the intense neurotic cases that get up an attack of asthma on the slightest provocation, tax and baffle us.

108. **The Sheldon Murder Trial.**—Phelps concludes his review of the medical evidence of the Sheldon trial, the main point of which was the question whether a pistol-shot wound was suicidal or homicidal, and he concludes that the necessarily homicidal character of the wound was not proven, nor even rendered probable. The accused, however, was convicted of murder, he believes, largely from the fact that erroneous statements or deductions were not fully controverted, that expert evidence was beyond the comprehension of the jury, and that the latter was influenced by the attacks on the witnesses for the defense.

109. **Tabes Dorsalis.**—This paper, read before the N. Y. Academy of Medicine, October 19, is abstracted in our report of that meeting, elsewhere, and the discussion included.

110. **Functional Nervous Diseases.**—Punton's paper goes over the general subject of heredity, toxic action, etc., in the causation of functional nervous disorders, and suggests the prophylaxis in the way of marriage regulations and other civil and legal enactments that favor it.

111. **Ophthalmic Contributions.**—Webster reports cases of episcleritis with kerato-iritis, tenotomy and congenital cataract, relieved by operation.

112. **State Aid in Tuberculosis.**—Goler's paper gives a comparison of the cost to the state of disorders that are treated by the public, such as insanity, epilepsy, etc., and pleads for

similar measures in tuberculosis as a much more curable and hopeful disease.

113. **Military Sanitation.**—Greenleaf gives a description of the Presidio camps at San Francisco, where only about 5.5 per cent. of sickness has occurred as compared with the fearful record of Camp Merritt. He gives full details as to the camp organization and management.

114. **Tentage for Tropical Service.**—The unsuitability of our regulation shelter for tropical climates, particularly those used for hospital service, is here noticed. A new design of hospital tent with an enlarged fly and opened-up top and with a different color for the tent itself and the fly, is here described and illustrated. The arrangement has been tried and the temperature tables of the ordinary hospital tent and this improved type are given, showing the advantages of the latter.

115. **Postpartum Hemorrhage.**—The conclusions of this paper are summed up as follows: 1. A knowledge of the source of the hemorrhage is necessary to insure intelligent action. 2. All rents when easy of access should be repaired at once. 3. If the body of the uterus is contracted and bleeding excessive and in all cases of hemorrhage following placenta previa, the whole cavity should be tamponed at once. 4. If this is not successful, or if the hemorrhage is constant and not excessive, secure the bleeding vessels and, if possible, repair the injury. 5. If atony exist and hemorrhage is not excessive, use external and bimanual compression of uterus, followed, if necessary, by hot water, vinegar or acetic acid. 6. If not successful or if atony exist with excessive hemorrhage from the outset, tampon at once after using hot water. 7. Give morphia hypodermically to check the hemorrhage and stimulants, strychnia and autoinfusion to overcome the effects of the hemorrhage. 8. To prevent anemia use saline solution, preferably per rectum or hypodermically. May use saline solution by infusion also, if necessary.

116. **Urotropin.**—Thompson gives his experience with urotropin in cases of bladder and urethral disease with irritability of the vesical neck, and in cases of enlarged prostate. He finds that about 7.5 gr. morning and evening have generally proven a sufficient dose, though when a third is required it is given.

122. **Rupture of Hydronephrotic Kidney.**—Sexton here reports a case of hydronephrosis causing kidney rupture, with detailed history. The synopsis of the case is given as follows: 1. The gradual, almost painless formation of hydronephrosis from a minor injury. 2. The obstruction and distension from catching a common cold. 3. The bursting of a vessel into the now distended sac. 4. The relief occasioned by discharging sixteen ounces of bloody urine. 5. The sudden change in the character of the pain when this drain becomes obstructed. 6. The giving way of the thin-walled kidney under the now unrelieved pressure. 7. The rapid collapse from internal hemorrhage. 8. The treatment of internal hemorrhage. 9. The arrest of hemorrhage by the pressure of the walls of the new-formed sac. 10. The recurrence of the hemorrhage on removing that pressure. 11. The necessity of evacuating the fluid because of blood poisoning from its decomposition. 12. The nephrectomy on collapsing patient to control the bleeding. 13. The development of so-called heterogeneous jaundice from absorption of blood coloring-matter. 14. The ability of a single kidney to secrete double the quantity of urine normally secreted by both kidneys. 15. The cause of the diuresis. 16. The observation of continued vomiting of bile-blackened, ink-like water in excess of all fluids ingested or injected. 17. The dangers of sloughing and abscess from using saline transfusions too hot.

124. **Smallpox.**—The mild type of smallpox at present prevailing in various parts of the United States is here noticed by Welch, who remarks on the difficulties of diagnosis and the lack of training of the average physician in such contagious diseases. He says that in twenty-nine years of hospital work, including a study of over 5500 cases of smallpox, he has never seen so mild a form as during the present year, nor has he found any account of such in the literature. He concludes his paper with the differential diagnostic points between varicella, impetigo contagiosa and pustular syphiloderm and smallpox.

125. **Smallpox in Cuba.** Woodson gives an account of the smallpox in the district of Holguin, Cuba, during the early American occupation of the island, and the methods by which it was met. He makes a severe charge against the agents of the Red Cross Society, whose supplies he was compelled to seize. Tables are given as to the number of cases, ratio of mortality, types of the disease and the treatment. The general plan of the latter was, daily scrub-baths with 1 to 2000 mercuric chlorid and open-air treatment. No attempt at cosmetic treatment was made. See also Journal, Feb. 29, p. 409.

127—See last week's Journal, ¶130, p. 1285.

128. **Rheumatism and Erysipelas.**—Salinger reports a case where pericarditis, pleurisy and erysipelas occurred in the course of acute rheumatism. He remarks on the theory of a certain French author, that rheumatism may be secondary and due to the infection by the streptococcus of erysipelas, which, he thinks, this case disproves.

FOREIGN.

British Medical Journal, November 4.

Discussion on Headaches and Their Treatment. T. Lauder Brunton, Dundas Grant, T. Clifford Allbutt and others.—In the pathology of headache we have to consider the general and local conditions. The first render the patient liable to pain, the second determine where that pain shall be. The general conditions which lead to headache are either imperfect or disordered nutrition. We find headache common in anemia, and still more so in disordered nutrition, as in rheumatism, gout, and in albuminuria. The nature of the alteration of nutrition is hard to determine, but Brunton calls attention to the importance of the liver in this connection. This stands at the gate of the organism, and prevents the deleterious substances from the intestines from passing into the general circulation. When these accumulate in their round from the intestines to the liver, until the organ is overtasked, they manage to get into the circulation, and in this way he accounts for much of the toxin headache, and the relief obtained by cholagogues and aperients is evidence of this fact. Why do toxins fasten upon the head and cause headache instead of pain elsewhere? Brunton credits this to local lesions, the most common of which are decayed teeth, or something wrong with the eyes or nose. The headaches from vasomotor spasms or brain tumors are also noticed. The treatment of headache, according to Brunton, is to try to supply the brain with healthy blood and clear away any toxins, and one method is to give a blue pill and a black draught, or its equivalent, but we may further give something to counteract the toxin, and he knows of nothing better than salicylic acid or salicylate of soda. Analgesics are useful when the pain is not too severe, and morphin as a last resort, but this should be avoided for fear of inducing the habit. In gouty, rheumatic and syphilitic headaches from inflammation of the periosteum, iodid of potash is very useful. In conclusion he cautions that in cases of intense headache unrelieved by drugs always look out for glaucoma.

Treatment of Headaches. Alexander Haig.—The treatment of paroxysmal uric acid headache lies, according to Haig, in the avoidance of all animal foods except cheese and milk, and of certain vegetable foods rich in alkaloids, such as tea and coffee, and in taking just as much, and no more, albumin as will produce 3 to 3½ grains of urea for a pound of body weight per day and, if necessary, a course of salicylates to aid elimination.

Further Experiments with Pane's Antipneumococcus Serum. J. W. J. Eyre and J. W. Washbourn.—From experiments here detailed, the authors conclude as follows: 1. The serum, in doses of 1 c.c. possesses, for rabbits, a considerable protective power against four out of five strains of pneumococci derived from different sources. 2. It has no protective power against one strain which in morphology, virulence, and culture characteristics is a typical pneumococcus, and which was obtained from a fatal case of pneumonia. 3. There exist varieties of the pneumococcus which at present can only be distinguished by the action of antipneumococcus serum.

Discussion on Intestinal Antiseptics. I. Burney Yeo, Vaughn Harley, Francis Goodbody, and others.—Yeo considers the use of antiseptics to be to prevent, limit or control the development and absorption of toxic products in the intestinal canal, and to antagonize the evil effects of such as are produced within this tract. The scientific and experimental basis of intestinal antisepsis is that these septic and putrefactive processes of the intestinal canal are due to bacteria. The morbid conditions in which intestinal antiseptics are indicated are the morbid fermentations that occur in gastric and intestinal disorders in the inflammatory conditions of mucomembranous colitis, diarrhea, etc., or the different symptoms depending on intestinal toxins, such as tachycardia, migraine, etc., in chlorosis and uremia which may be connected with these conditions; also in other important diseases, as cholera, dysentery and typhoid where intestinal antiseptics have been recommended. He reports observations and quotes authorities for their use. The substances which he thinks useful are calomel, carbolic acid, a chlorin mixture, thymol, etc. He does not favor the use of salol.

Harley and Goodbody report experiments on the usefulness of antiseptics. Their conclusions are: 1. Estimating the quantity of aromatic sulphates daily eliminated in the urine, one is able to gain an insight into the amount of putrefaction occurring in the intestine at a given time, provided aromatic substances are not being administered. 2. Washing out the large intestine by copious enemata is capable of decreasing the aromatic sulphates in the urine, and therefore causes a diminution of intestinal putrefaction. 3. When a mild aperient is given not sufficient to act as a purgative, but sufficient to in all probability cause a more complete emptying of the bowels, this acts as an intestinal antiseptic, decreasing the amount of aromatic sulphates in the urine, not only when they are increased owing to increased intestinal putrefaction, but even when they are only small in amount. 4. Calomel, when given in small doses so as to produce no purging, does not diminish the aromatic sulphates in the urine to a sufficient extent to say that it acts as an intestinal antiseptic when the aromatic sulphates at the beginning are small. On the other hand, when, however, there is undoubtedly an increase in intestinal putrefaction, small doses of this seem to act as an intestinal antiseptic.

Cases Treated with Erythrol Tetranitrate. Hugh Walsham.—Walsham gives pulse tracings and clinical reports of cases of cardiac disease, etc., treated with erythrol tetranitrate with, he thinks, considerable success.

Treatment of Digitalis Poisoning: An Experimental Investigation. J. J. Taylor and C. R. Marshall.—The authors conclude from their observations that the treatment of digitalis poisoning must be symptomatic. They know of no antidote to this drug, in any true sense of the word, nor do they think we shall ever know of one. Digitalis enters into the tissue metabolism very slowly, produces distinct structural changes, and is slowly eliminated. It, therefore, possesses the most unfortunate characters for the action of an antidote. Apparently all that we can do is to withdraw the drug if it is being given medicinally, clear the alimentary canal of any digitalis it may contain, increase the rapidity of elimination by diluents, allay sickness, reduce arterial tension when high, procure sleep if necessary, and treat other symptoms as they arise. In other words, the condition must be treated as if it were, which it is, an ill-understood disease. For the reduction of arterial tension nitroglycerin, as an ally, is the best remedy; but with a low blood-pressure, which is not infrequently present in digitalis poisoning, this is useless. In such cases small doses of alcohol, insufficient to produce vasodilatation, would probably prove of greater service.

Lancet, November 4.

Bradshaw Lecture on Causation of Functional Heart Murmurs. Arthur Foxwell.—Among the functional murmurs of the heart, Foxwell treats of only the one which he calls the pulmonary murmur. It is always systolic, best heard over the second and third left spaces close to the sternum and conducted up and out toward the left shoulder. It may vary somewhat from these limits, but this is its general position. It is accompanied by the pushing up and out of the apex, very slight increase of dulness to the right, and pulsation in the second, third and fourth left spaces. Often, when lying supine, an indefinite pulsation exists in the veins in the right side of the neck. The pulse varies considerably, being generally short and abrupt in ending. The chief symptoms are dyspnea on exertion, especially sudden. Palpitation, irritability and dyspepsia are common. The skin is dull, toneless and pallid. The condition is common in adolescence, especially so in chlorotic girls. There is generally a history of cardiac strain or too early return to work after illness, prolonged anxiety or mental strain. He gives the histories of a large number of cases, and details of experiments performed on hearts from the cadaver. There was one post-mortem abnormality constantly found in patients who had died with this functional pulmonary murmur, i. e., dilatation of the conus and pulmonary artery so that when supine it tends to lie directly over the bifurcation. He believes that is the cause of the condition, and gives his reasons and experiments to confirm it.

Treatment of Certain Forms of Neuralgia by Injection of Osmic Acid. William H. Bennett.—The author believes that in certain forms of neuralgia the injection of osmic acid is the most promising method of treatment thus far known to him. He uses a solution of 1.5 per cent. injected directly into the nerves. During the injection a pledget of sterilized gauze or wool should be firmly held around the middle of the orifice of the wound in order to prevent the escape of fluid externally.

Medical Press and Circular (London), November 1.

After-Effects of Removal of Appendages and of Uterus. J. Furneaux Jordan.—The author sums up the effects of removal of the appendages as follows: "The final results in cases of removal of the appendages for inflammatory diseases is uniformly good. The severity of the artificial menopause is most marked in young women. The mortality in severe cases of pyosalpinx treated by abdominal section is higher than one would wish. The use of the drainage-tubes involves a weak spot in the scar. The likelihood of leaving behind some portion of ovarian tissue is great in cases of very dense adhesions. The effect of this passes off in time. If the appendages are fully removed, menstruation ceases entirely. The necessity for, and the advantages to be derived from, removal of the uterus will rarely occur. I may now add: Be as conservative as possible, especially in young women, and in 'conservatism' I include not only operative but also non-operative measures. Treat all severe cases of pyosalpinx, if possible, by the vaginal route. Do not drain unless absolutely compelled to, and then consider the possibility of draining by the vagina. Do not get disheartened if the patient does not get the full benefit of the operation for some little time." He also considers the subject of myoma and its removal, and finds that cases do occur in which no operation is immediately called for, but which under the continued administration of ergot and hydrastis, combined with rest, may be safely kept under observation for some time, provided they do not steadily increase in size; and that there are also cases which call for the removal of the appendages instead of hysterectomy. For large unwieldy tumors locking up the pelvis, hysterectomy is the treatment. He prefers the combined method. For small myomata demanding interference on account of their rate of growth and hemorrhage or pain, he hesitates between the two operations. Each case must be judged for itself. He tabulates thirty-eight cases of removal of the appendages and twenty-four of myomectomy.

Archives Orientales de Medicine et de Chirurgie (Paris), October.

Treatment of Aneurysms of Aorta with Gelatin. Kalindero.—In the observation described there were unmistakable evidences of a large aneurysm of the arch of the aorta on a basis of malaria and syphilis with difficulty in respiration and cyanosis of the lips and extremities. Vigorous specific treatment failed to relieve the symptoms, and 100 c.c. of a solution of 1 gram of gelatin in 100 c.c. of salt solution, was injected subcutaneously in the buttocks. There was a slight chill and the temperature temporarily rose to 38.5, but in a few days the dyspnea had disappeared and the attacks of suffocation and coughing had become much less frequent and severe. The injections were repeated every week, producing each time the same slight, transient reaction. By the fifth injection the aneurysmal sac was obliterated and retracted, and all the functional troubles had vanished, and the patient considered himself entirely cured.

Presse Medicale (Paris), November 1.

New Methods of Abdominal Suture Without Sunken Threads. T. Jonnesco.—Most persons are content to publish one invention at a time, but in this communication Jonnesco describes three methods of suture, "each better than the last," expressing his preference for the latest, which consists in a median incision and resection of the linea alba the length of the wound, opening the sheath of the rectus on each side. After the median incision the long narrow flap of aponeurosis formed by the resection of the linea alba and two narrow strips of the anterior lamella, each side of it is excised. A second flap, the same shape and size, is then cut out of the posterior lamella by taking up a fold in it. The sheath of the rectus is then closed, each side by a row of small clamps fastening the peritoneum to the skin all around. When the operation is completed the abdominal wall is sutured, a compress protecting the intestines. The sheath of the rectus on the left, the side farthest from the operator, is closed with small clamps holding the free edges of the two lamellæ together, the peritoneum taken up with the posterior lamella. The sheath toward the operator is left open, the two lamellæ seized separately by the forceps. The aponeurosis must be detached from the hypoderma and exposed for a distance of 2 cm. on the right and 1 cm. on the left. The suture is made with a single row of wires which close the sheaths of the rectus. The needle is inserted in the right lip of the wound, 3 cm. from the edge, and passed through the four lamellæ of the rectus sheaths and the lips of the peritoneum, the wire left projecting on each side. Other wires are carried through the tissues in the same way. The left end of the wire is then taken in the needle and brought back to the right side, first through the anterior lamella and then through the skin, directly above the points where it passes through them in the other direction. Each stitch thus forms a U, the ends of the wires all on the right side, where they are twisted over a roll of gauze. The skin is sutured separately and may need to have a narrow strip excised to fit the loss of substance beneath, as otherwise there may be knobbiness and a space left for the accumulation of serous fluids, interfering with cicatrization. He removes the wires on the tenth day. The direct approximation of the sheaths of the rectus in this way forms an extremely solid first-intention cicatrix, as he has established in the fifteen cases thus operated on.

Progress Medicale (Paris), October 28.

Appendicitis. J. Noir.—The statement that appendicitis is a fashionable disease applies also to the frequent changes of opinion in regard to treatment. While Dieulafoy is preaching intervention in the first twenty-four hours, the surgeons are growing more and more conservative. The *Scalpel* of Liege publishes an enquiry among six prominent American surgeons—"and the American surgeons are not noted for excessive timidity"— which proved that four operate only in a limited number of cases. MacBurney is credited with saying he does not consider it necessary to operate in all cases any more than he would amputate a hand on account of a septic wound on a finger. Senn, Bridon and MacGuire are reported as agreeing with him, and only Morris and Powers are partisans of intervention as soon as the diagnosis is established.

Centralblatt f. Chirurgie (Leipsic), November 4.

Salzer's Radical Operation for Crural Hernia. A. Brenner.—This report of 63 herniotomies made according to Salzer's method, proposed in 1892 (*Cbl. f. Chir.*, 33), shows that permanent success was attained in 91.8 per cent. of the 49 cases followed to date. The four with recurrence of the hernia were extremely exceptional: 1 with artificial anus, 1 with bilateral hernia; 1 operated on by an assistant. The method consists essentially in cutting a wedge-shaped flap out of the pectineus with the base on the pubis. The flap is drawn up closely and sutured to Poupart's ligament, thus closing the opening. The cases reported date from 1894, 3; 1895, 10; 1896, 10; 1897, 9; and 1898, 13; the operation is simple and harmless; the only difficulty is the vessels in the lower angle of the wound, which require compression or ligature. Brenner drains for twenty-four hours.

Deutsche Medicinische Wochenschrift (Leipsic), November 2.

Basophilous Granules in Red Corpuscles. M. Litten.—In 1 out of every 10 cases of anemia examined the granules in the cell were evidently due to disintegration of the nucleus, the transition forms were numerous and the marrow of the bones examined was intensely red and swelled out over the sawed surface. Most of the red corpuscles had nuclei, and these were in various stages of unmistakable granular disintegration. Engel has also announced that in mice embryoes at a period when there is no bone marrow, the nuclei of certain erythroblasts are not expelled but undergo a granular disintegration. Evidently the nuclei of the newly-formed red corpuscles are destroyed partly in the marrow and partly in the blood, and the nuclei of the newly-formed reds are unable to replace the destroyed reds, but are also devoted to destruction. This may be a physiologic process in the blood of embryoes, as Engel seems to have established, an extravagance possible to young growing organisms with a wealth of material at their disposal, but in cases of anemia it is a pernicious process. This granulation in the reds has no diagnostic nor prognostic significance that he was able to determine.

Death from Chloroform. A. Sippel.—If it is ever again Sippel's experience to have the heart action stop while the respiratory function and reflex excitability are still retained, as in a typical observation he reports, he will at once expose the pericardium or the pleura through an incision in the fourth or fifth intercostal space and, by rhythmic application of the induced current to the heart, endeavor to stimulate it to contract, and in case this fails, send an interrupted current through a fine needle inserted into the heart muscle itself, the other electrode applied anywhere to the thorax. Landois quotes, in his "Physiology," that when the contractions of the frog's heart have become weak and irregular they can be made regular and normal again by electric stimuli applied in a rhythmic isochronous series. The heart responds with the same energy to the feeblest as to the strongest stimulus. By this rhythmic faradization applied directly to the heart tissue, combined with artificial respiration, etc., Sippel thinks it possible to restore persons who now succumb in spite of all our efforts. By analogy with the action of chloroform on other nerve-centers, it is reasonable to assume that the cardiac nerve-centers would also quickly resume their automatic activity after chloroform paralysis, if, by the means described, we are able to flush the heart with blood richer in oxygen and poorer in chloroform. Sippel states that he now never administers chloroform without a physician as the anesthetist and, if possible, with still another assistant for the mechanical part of the work.

Renal Hemorrhage of Angioneurotic Origin. W. Poljakoff.—Klemperer observed two cases of angioneurotic renal hemorrhage, diagnosed *per exclusionem* and the success of hydrotherapy; Sokoloff, another in which the hematuria coincided with a lesion of the cortex, and was evidently due to a disturbance in the central vasomotor system, and not to hemophilia nor trauma, the other two groups noted in Klemperer's classification. Poljakoff describes another observation in which migraine and manifestations of disturbances in the vasomotor system of the cutaneous vessels, with severe neuralgias restricted to the same side, the kidney painful to pressure but otherwise normal, all indicated the angioneurotic origin of the hematuria, which recurred after excitement or a railroad trip. But the most convincing proof of this etiology was the hemorrhage from the intestines—no hemorrhoids nor constipation—which supplanted the hematuria on one occasion. The patient was a young woman of a neuro-arthritic family, but no hemophilia. The hematuria lasted three to five days and recurred three or four times in three years. Rest, milk and ergot were ordered.

Course and Prognosis of Tuberculous Pneumothorax. U. Rose.—Suppurative pneumothorax is apt to be more unfavorable than the serous or those without effusion. Ten absolute recoveries from sero-pneumothorax with advanced tuberculosis are on record, and twelve from pneumothorax without effusion in similar conditions. Rose adds three new observations to the list; in one the pneumothorax was entirely absorbed in a short space of time, although the tuberculosis had invaded both lungs, and cavities were evident.

Muenchener Medicinische Wochenschrift, October 21.

Convulsions in Infancy. M. Thiemich.—The functional clonic and tonic, general and partial contractions of the muscles in children under 2 years of age, with more or less severe functional disturbances in heart, respiration, etc., and without macroscopic evidence of any affection of the central nervous system, have been attributed to an autointoxication, proceeding either from the intestines, the intermediate metabolism, or from a certain organ, the liver for instance. But Thiemich states that the injection of an entirely harmless salt, such as natrium chlorid, in a very hypertonic solution, into the circulation of an animal, a rabbit for instance, will produce similar general convulsions. This action is due exclusively, he considers, to the disturbance of the osmotic inter-relations between the blood and the tissues, and as we can clinically establish, in sick infants, by the sinking in of the fontanelles and bulbi, the dryness and deficient elasticity of the skin, that the tissues are deficient in water, the same etiology possibly applies to the cerebral symptoms and especially the convulsions, in eclampsia infantum.

So-Called Functional Mental Disorders. Franz Nissl.—For a number of years Nissl has been making a histologic study of every brain that came to the autopsy, and he announces that every psychosis—whatever its nature—has a positive anatomic cortical foundation, and hence the term of functional mental disorder, meaning one without an anatomic foundation, must be abandoned. He has preparations from persons with katatonia, in which the proliferation of the glia is fully as pronounced as in cases of progressive paralysis. He also has preparations from "involution melancholia," in which the ravages in the cortex were much more severe than in paralysis. In a case of suicide he found a most astonishing increase in glia-cells, and that they had swallowed the greater part of the nerve-cells of the inner zone of the medullary fibers. The man had been considered sound to the very last, but inquiry showed that he was a victim of unrecognized katatonia. He announces that in eighty cases of progressive paralysis Unna's plasma-cells were constantly found abnormally numerous in the adventitia of the cortical vessels, while Ehrlich's granular cells—Mastzellen—were occasionally encountered in cases of epilepsy, katatonia, melancholia, idiocy, etc. We can assume, therefore, that the presence of Unna's plasma-cells is pathognomonic of paralysis, but no one would claim that the psychic manifestations are due to these, and it has never yet been absolutely established that any of the alterations noted in this disease are the cause of the psychic disturbances. "We can only distinguish the nerve-cells and the nerve-fibers to a certain point. We trace the nerve-fibril to the wall of the nerve-cell, and beyond, to the tips of the dendrites and follow the dendrites through the axon into the axis-cylinder to the point where it vanishes from our sight. The wall of the cell confines the pericellular network, and this side is the gray substance in which the axis-cylinder has vanished from our observation. We know nothing of the more intimate relations between the nerve-fibril and the cell body, or between it and the gray substance, and any interpretation of these facts is utterly beyond us. The question now before us is to determine whether and to what extent the clinical pictures observed parallel the pathologic anatomic processes." "Diseases developing on an anatomically intact foundation are unknown to science."

Zeitschrift f. Hygiene u. Inf. xxxi, 3.

Constant Presence of Long Streptococci on Healthy Tonsils and Their Significance. P. Hilbert.—Streptococci, frequently virulent, were constantly found on the healthy tonsils of fifty school children and fifty patients at the Polyclinic. Comparison of the streptococci found on the tonsils of ten healthy persons and ten with tonsillitis failed to reveal any difference between them in respect to their behavior in cultures or in their virulence. Hilbert draws the inference that it is in the highest degree improbable that the streptococcus has any etiologic significance whatever in respect to infectious affections of the tonsils.

Medicinskoye Obosrenye (Moscow), August.

Bacterioscopic Diagnosis of Diphtheria. O. Bronstein.—Long experience in the Bacteriologic Institute has convinced Bronstein that simple bacterioscopic examination of the membrane will answer the same purpose as cultures in determining the presence of the bacillus. He modifies the Roux-Yersin method as follows: the preparation is dried and fixed and a mixture poured over it consisting of one part dahlia (dahlia, 1; 36 per cent. alcohol, 10, and water 90), to two parts methyl green (methyl green, 1; 96 per cent. alcohol, 10, and water, 90). It is then rinsed in water and dried with blotting paper. With an oil-immersion objective the bacilli can then be easily distinguished as dark violet rods. Neisser's methylene blue—Bismarck brown stain is also effective in differentiating the genuine from the pseudodiphtheria bacillus.

Voyenno-Medizinskii Journal (St. Petersburg), June.

Therapeutic Prophylaxis of Malaria. M. Manozki.—About 15 per cent. of all disease in the Russian army is due to malaria, and 36 per cent. in the southern provinces. Manozki computes the expense of hospital and other treatment of this number of cases and compares it with the expense of systematic prophylactic administration of quinin, proving that pecuniary reasons alone are sufficient to enforce the necessity of prophylactic therapeutics in regions with epidemic or endemic malarial infection.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, Wagoner, December 5–6.

North Central Illinois Medical Association, Mendota, December 5–6.

Southern Surgical and Gynecological Association, New Orleans, La., December 5–7.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27–28.

International Congress of Higher Education.—Brouardel has been appointed president of this Congress, to convene at Paris, July 30 to August 4. Secretary-general M. Larnaude, à la Sorbonne, Paris.

International Life Saving and First Aid Congress.—This Congress will open at Paris, July 17, 1900; subscription five francs, or twenty francs for "donating members." General secretary, M. F. Michotte, rue Condorcet, 21, Paris.

Vermilion County Medical Association.—This Association elected the following officers at the meeting held in Danville, Ill., November 10: president, W. A. Cochran; vice-president, T. E. Walton; secretary-treasurer, E. E. Clark.

Des Moines County Medical Society.—At the annual meeting of this Society, held in Burlington, Iowa, November 15, the following officers were elected: president, J. W. Dixon; vice-president, George Kinney; secretary and treasurer, A. C. Zaiser.

Fox River Valley Medical Association.—The semi-annual session of this Association was held at Aurora, Ill., Nov. 14. These officers were chosen: president, J. E. Bumpstead, Dundee; vice-president, J. A. Rutledge, Elgin; secretary and treasurer, G. F. Allen, Aurora.

Nova Scotia Society.—The annual meeting of the Nova Scotia Branch of the British Medical Association was held at Halifax recently. Officers elected for the ensuing years were: president, E. A. Kirkpatrick; vice-president, G. C. Jones; treasurer, M. A. B. Smith; secretary, C. D. Murray.

N. Y. Academy of Medicine.

Oct. 19, 1899.

LOCOMOTOR ATAXIA.

Dr. C. L. Dana read a paper on this subject, considering: the pathologic anatomy; pathogeny; relation to heredity, occupation, syphilis; importance of diagnosis of anomalous symptoms and types, ocular, optic, cardiac, gastric, rectal, neuralgic, articular; methods of treatment, value of antisyphilitic measures, electricity, hydrotherapy, mechanical measures and Trexenhil's method.

Dr. C. M. Hammond said that it is undoubted that tabes may be a, or part of a, systemic disease, but tabes may exist without any systemic complications. The poison in the system, which produces cerebrospinal disease, may spend its force on the spinal cord and brain, or it may be confined to the spinal cord, and thus we see either disease of the cerebrospinal system, or tabes dorsalis alone.

As to the morbid changes of the disease, he agrees with the author that the morbid changes which produce tabes occur in the nerve roots and ganglia. We might have all the symptoms of tabes without the changes occurring in the nerve roots. Excluding new growths and a few other conditions which may press on the posterior columns, we might have connective tissue changes which produce the symptoms of tabes: e. g., multiple sclerosis and possibly sclerosis without being multiple but confined to the lumbar region of the cord.

As to the syphilitic poison acting primarily on the neurons themselves, he has doubts. In many cases the first change is a physiologic vascular one; there is syphilitic disease of the vessels with thickening of their walls and occlusion of their lumen, producing a closure of the nerve tracts.

In treatment, the antisyphilitic is desirable, for it tends to prevent further degeneration. Potassium iodid prevents or decreases the liability to further changes in the neurons. As to the rest cure of tabes, the best way to promote vitality in an organ is to use it moderately. The moderate use of an organ always has a tendency to improve and strengthen it, and promote its higher organism. Therefore he does not recommend rest, but moderate exercise of all kinds. Although the changes in tabes have been compared to those of senility, he does not think this comparison is accurate: the changes in senility are normal, while those in tabes are abnormal and should not be regarded in the same therapeutic light. He has never seen any benefit from electricity, and does not believe that it arrests the changes in any way. He approves of hydrotherapy, but does not see the value of any medicated water. The skin does not absorb the drugs. Large doses of strychnia are good. He has given this hypodermically as high as in ¾ gr. doses without any toxic effect, and with very decided improvement in the tabetic symptoms. It acts by improving the nutrition of the degenerated parts, and thus increases the efficiency of diseased portions of the cord. There is some doubt as to the benefit of be derived from Fränkel's method. It acts entirely through the medium of the eye. The muscular sense of the patient is gone, his tactile sense is interfered with, and improvement is through the eye alone. The result of this treatment differs greatly among people of different grades of intelligence, and he has seen very little benefit from it.

Dr. B. Sachs said that tabes dorsalis is perhaps not a spinal disease in its inception, but those who have seen post-mortems on these patients must admit that we are dealing with a disease which inflicts much damage on the spinal cord. We had better continue to regard the disease as a spinal cord affection. Many of the cases which impress one as cases of tabes dorsalis prove in the end to be cases of cerebrospinal syphilis simulating tabes.

The efficacy of antisyphilitic treatment is largely influenced by the fact that we can not always be certain that a case which appears to be genuine is not after all a case of cerebrospinal syphilis simulating posterior spinal sclerosis. He, on this account, advocates antisyphilitic treatment, particularly in the early stages. He agrees with Dr. Dana as to the rest treatment, particularly as given in institutions, as a favorable adjuvant in the earlier stages. If these patients are simply put to bed for four or six weeks or three months, without any medical treatment, they are sure to derive much benefit from the rest. Dr. Hammond's objection to the rest treatment, he could not quite appreciate: exercise, at least excessive exercise, is likely to bring about changes in the spinal cord similar to those observed in posterior spinal sclerosis. Resting is favorable, and it is largely on account of the rest treatment that patients in institutions do better than those in private practice. His own experience with the Fränkel method during the past two years has been extremely favorable. The patient does not particularly care whether he will be able to walk again. A number of patients who were unable to walk or even to stand without the assistance of at least a heavy stick, have been taught by this method to walk independently and to go about their business. We should encourage the general practitioner to teach his patients this method, which can be combined very well with the rest treatment. We should not leave the impression that tabes is an unsatisfactory disease from a therapeutic standpoint. There is much to be done for these patients in the way of increasing their comfort and improving their symptoms; we can at least alleviate their suffering, even if we can not cure them.

Dr. M. Allen Starr said that the only question he could raise would be in regard to syphilis as a factor, as we are a little prone to take an extreme position in medicine, and therefore are liable to be open to the accusation that fashions in medicine prevail, and that we run with them. The question of syphilis in connection with tabes is still an open one, and although Erb says that 89 per cent. of his cases have had syphilis, he also admits that 11 per cent. have not had it. The statement of Dr. Collins, that if we could obliterate syphilis, we could also obliterate tabes, must be accepted with some doubt, he said, his own statistics showing that with over 300 cases of tabes only about 70 per cent. gave any history of syphilis, and in his private practice the percentage in which any history of syphilis is obtainable is about 40. He believes the vast majority of patients with tabes have had syphilis, and that the syphilitic virus had something to do with spreading the degeneration of the sensory neurons, but that every patient who has tabes has had syphilis, he does not believe. Syphilis is very prevalent in Japan, while tabes is rarely seen there. On the contrary multiple neuritis as well as other types of neuritis are very common. Tabes appears to be a disease from which the Japanese are entirely exempt, which he thinks is due to the fact that the Japanese—even the laboring classes—bathe very frequently, sometimes two or three times daily, and this keeps the peripheral circulation in very much better condition than in those people who do not bathe very often. The sensory neurons have two branches—one to the spinal cord, the other to the skin—and in tabes both of these probably undergo degeneration. By hydrotherapy we influence this peripheral branch by improving the general circulation of the body. He believes thoroughly in the rest treatment, does not urge patients to exercise, and has never used large doses of strychnia, because strychnia and nux vomica tend to increase pain.

Dr. William M. Leszynsky has during the past fifteen years examined many cases of tabes without being able to elicit either a history of syphilis or detecting any of its somatic symptoms. In a large percentage of cases there was no such history, and he has never felt justified in putting these patients on antisyphilitic treatment. Even in cerebral spinal syphilis, particularly in the exudative stage, benefit is not always derived from this treatment. He tried Fränkel's method, in four cases, and was rather disappointed by it in two of these, who were not benefited at all.

Dr. William H. Thompson said that attention should be drawn to the frequency of visceral complications in tabes, especially in the initial stage, when they are very apt to lead to mistakes of diagnosis. Recently he saw a case where severe gastric flatulence coming on suddenly and then suddenly subsiding was the predominant symptom. It has been his practice to make applications of red pepper in the form of an infusion, one dram to a pint of warm water, along the spine, and especially to the anesthetic areas. Invariably the patients have obtained more or less relief from such applications, and in some cases they were followed by the absolute disappearance of the anesthesia. He is also very partial to the application of the actual cautery to the spine. A very good substitute for this is a glass pipette, which is heated over an alcohol lamp, and then applied to the painful spots. He believes acetanilid in combination with belladonna good for the pains, and also lays great stress on cod-liver oil, giving it as long as the stomach will bear it. He agrees with what has been said about the value of warm baths, either plain water or artificial Nauheim baths, the object being to improve the peripheral perspiration. We all agree as to the value of the rest cure, but the majority of our patients wish to lead an active life: they still wish to continue to make their living, and can not afford to lie abed for four weeks or longer. The same connection exists between tachycardia in tabes as we find between tachycardia and other conditions in other diseases, and by preventing intestinal fermentation we improve the symptoms.

Dr. Dana, in closing, said: I know little about Fränkel's treatment, but believe it is useful. I take very much the same position as does Dr. Starr on the connection between syphilis and tabes. In from 75 to 80 per cent. of cases we get an absolutely genuine history of syphilis, and can trace the exact chain of symptoms. In the others certain links in the chain are missing, although they may exist.

College of Physicians of Philadelphia.

Section on Otology and Laryngology, Oct. 18, 1899.

LARYNGEAL TUBERCULOSIS.

Dr. P. S. Donnellan read a communication entitled "Some Points in the Diagnosis and Treatment of Laryngeal Tuberculosis." Accurate diagnosis he held to be essential to success in the treatment. Routine treatment is to be avoided. Each case must be studied by itself in order to obtain the best results. The diagnosis is made from the history, the temperature record, the appearance of the larynx, and in the later stages the detection of the Koch bacillus in the sputum. Dysphagia, in advanced cases, is one of the most distressing symptoms, and there is more or less alteration in the voice, and always cough with mucous, purulent, or bloody expectoration. The laryngoscopic appearances at an early stage are a peculiar pallor of the mucous membrane, which, however, is not pathognomonic. More significant is a diffuse hyperemia, succeeded by local infiltration, usually beginning in the interarytenoid space, the epiglottis, or the ventricular bands, or in the vocal cords. The crescentic border of the epiglottis may become turban-shaped and the arytenoids pyriform. There may be shallow, irregularly circular ulcers, covered with a mucopurulent secretion, which contains tubercle bacilli. Lung disease generally coexists and physical examination aids the diagnosis. The principal diseases likely to be confounded with tuberculosis of the larynx are syphilis, carcinoma, and lupus. In the two latter, the tubercle bacilli are absent, and they are likely to be attended by characteristic cutaneous manifestations. The trial of antisyphilitic medication will often clear up the diagnosis in a doubtful case.

Climatic treatment will greatly contribute to a successful result, especially a moderately dry, warm climate of equable temperature, free from dust, and with abundant sunlight. Diet should be abundant and nutritious. Physical exercise, bathing, and massage are valuable. The patient should spare his voice as much as possible and speak only in a whisper. A sea voyage is useful in selected cases. In addition to the internal treatment directed to the pulmonary condition, with cod-liver oil, creosote, iron, arsenic, or strychnin, and intravenous or subcutaneous injections of cinnamic acid or sodium cinnamate, local treatment is of great importance. Following a 10 per cent. cocain application to the affected area, submucous injections of minim doses of guaiacol or of creasote—by a special syringe devised by James Donellan of London—have proved advantageous. The local use of lactic acid by Krause's method is approved. In ulcerative processes, orthoform insufflations relieve the pain, but are less efficient in bringing about healing than lactic acid applications—20 to 80 per cent. Formaldehyde and para-mono-chloro-phenol in his hands had given the ulcers a healthier appearance, but did not bring about healing until lactic acid was subsequently applied. Symptomatic treatment will be required for cough, etc. The stomach may be used for feeding, with the patient in the Trendelenburg posture. In extreme cases, rectal feeding may be resorted to until the larynx is sufficiently improved to allow nourishment to pass painlessly over the epiglottis. Tracheotomy is only admissible in impending suffocation.

Dr. Joseph S. Gibb said that prompt diagnosis is important as it is only at an early stage of the disease that any method of treatment is of much avail. Authorities lay great stress on certain symptoms. For instance, the pallor of the mucous membrane of the larynx and epiglottis, but as this may also exist in anemia and other diseases, we can not, on this symptom alone, place much reliance. Another symptom, of greater importance, is a granular appearance of the mucous membrane, principally observed between the arytenoids in the posterior commissure. In a large percentage of cases this is the primitive site of the disease, which may be also manifested by a mammillated condition of the membrane. The thickened club-shaped arytenoids with turbinate swelling of the epiglottis are positive evidence of the disease, but before such extensive infiltration takes place we usually have the granular appearance of the mucous membrane of the interarytenoid space, when this portion of the larynx is invaded. It is at this time that radical local treatment is of most avail, especially where there is no disease of the lung, but primary tuberculosis of the larynx is rare.

In treatment, the method of Krause is to be recommended. Removal of a portion of the swollen arytenoid, as practiced by Hering, is adapted to a later stage of the disease and is only palliative.

Dr. Frank Woodbury directed attention to the importance of systemic treatment. In the first place there are certain blood changes which precede infection by the bacillus tuberculosis and which make infection possible. If these can be overcome, either by hygienic means, or by the use of nuclein or guaiacol or by injections of tuberculin, or cinnamic acid, the prospect of successful results is much improved. In the second place, the degree of virulence of the infecting agent must be of great importance. Where patients are suffering from a mild or modified bacillus, it is reasonable to suppose that they would yield more readily to our remedies, and that the results of treatment would be more successful. We are familiar with this in syphilis and, arguing by analogy, we may look for it in our phthisical patients. The personal equation of the patient is also to be considered. In speaking of the benefits of climate, we must not overlook the fact that some patients leave their homes unwillingly and are unhappy and depressed to such an extent as to counteract, to a large extent, the climatic advantages that are so beneficial to others. It is known that women are less frequently benefited than men by a change of residence. One great objection to sending patients away is that they can not receive the same medical attention that they have been accustomed to, and local treatment, except by inhalations and sprays, has to be suspended. Cases have occurred, however, of recovery by climatic treatment alone, without any special medication to the larynx. In the treatment, sunlight, dryness, and purity of the atmosphere occupy the front rank. Transillumination of the larynx by the electric light has been practiced by Freudenthal as a therapeutic measure, with alleged good results; it is based on the observation that tubercle bacilli are killed by light. The daily inhalation of vapors of creosote, lysol, iodin, oil of eucalyptus, etc., have proved beneficial. Where ulceration has occurred the lactic acid treatment with systematic cocainization of the larynx has given the best results. If the lesions are strictly limited to the larynx, the question of extirpation might be considered as in cases of malignant disease.

Dr. E. B. Gleason wished to confirm the statement regarding the utility of orthoform when the nerve-endings were exposed, in relieving pain and enabling patients to take nourishment. He mentioned an instance of a young man who had been almost carried into his office as he was too weak to walk and who had not been able to eat for a week on account of dysphagia accompanying tubercular ulceration of the larynx. He cocainized the larynx and applied orthoform powder, affording such relief that the patient was at once able to drink a glass of milk; and, as the result of insufflations of orthoform powder twice a day, in a week or so he was able to eat lamb chops. The ulceration healed completely under orthoform powder, without any other local treatment.

Dr. E. A. Musson, a visitor, said that she had used Heryng's forceps with greater success than Krause's curettes. In one case she had removed a portion of the bands and arytenoids, about six years ago; the man recovered and is now a lecturer and his pharynx perfectly free from tubercle or other lesion.

Dr. F. A. Packard inquired regarding infection of the larynx from tubercular cervical glands. He had reported a case in which there had appeared to be evidence of such connection.

Dr. B. A. Randall said that he would go one step farther than Dr. Packard and seek the cause of the lymph-gland infection. This would not rarely be found in the ear, of which more lesions are tubercular than is often thought. The adenitis excited is protective in tendency and, even without breaking down of the gland, such infective material may be destroyed; yet latent foci may remain for future development.

Dr. Arthur A. Bliss was particularly in accord with the author of the paper in the view that primary tuberculosis of the larynx is rare, and that, as a rule, it is secondary to lung disease. Many come to the clinic suffering with pulmonary tuberculosis and also simple chronic laryngitis. The chronic laryngitis furnishes a nidus for the tubercle bacillus and the local infection. He has obtained as good results from lactic acid as from anything. During the past year he has also used Heryng's cutting forceps, previous to its application, in order to remove as much as possible of the infiltrated base of the ulcer. This method is especially applicable to cases where the tissues are commencing to break down. It affords great relief from pain and permits the patient to swallow with less difficulty.

Dr. P. S. Donellan, in closing the discussion, said that he had seen no case of laryngeal tuberculosis that he could attribute to infection from cervical glands, but he had reasons for believing that in some cases the sequence is directly opposite.

TYPHOID FEVER WITH PHLEBITIS OF LATERAL SINUS.

Dr. B. A. Randall reported a case of phlebitis of the lateral sinus following otitis media in typhoid fever. The man, ot 26, had been unwell since the middle of July, 1898, and was admitted to the Methodist Hospital the following October 15, with the symptoms of typhoid and positive Widal reaction. He had aural involvement in the fourth week, with deafness and slight serous discharge, at times reported puriform on the left but none on the right. He had several superficial boils about the body. One in the axilla contained a half ounce of pus, but there were no rigors, sweats nor pyemic variations of temperature. About the thirty-sixth day he had a typhoid relapse with rose spots, pyrexia and delirium lasting two weeks; then, after two weeks of convalescence, he had pain back of the right ear, with tenderness, redness and edema of the posterior, cervical triangle and temperature of 101.4 F. This yielded in three days without operative intervention, and after a nearly unbroken convalescence he was discharged well, about the one hundred and twentieth day of his disease. He thought that since the general introduction of the cold bath treatment of typhoid fever, there had been an increase in the number of ear cases.

RESULTS OF PASSOW'S OPERATION.

Dr. E. B. Gleason exhibited the tympanic bone of a whale and presented two cases showing the small amount of deformity after radical mastoid operation with permanent post-auricular opening by Passow's method. The opening would hardly be noticed by a casual observer and was scarcely more conspicuous than the scar of an ordinary mastoid operation; being slit-like in character, and situated at the junction of the auricle with the side of the head. Only by pulling the auricle forward did the opening become apparent. Under these circumstances, it was oval and permitted easy inspection of the middle ear, which was covered throughout with non-secreting and apparently normal skin.

He has done Passow's operation four times, and the post-auricular opening greatly facilitated the after-treatment, as the entire middle ear was always within easy reach for inspection and treatment. Skin grafts could be inserted from time to time between the flaps of skin, and thus secure rapid healing. After such an operation the patient or his friends can readily keep the skin lining the middle ear clean and thus prevent dermatitis and recurrent otorrrhea.

Both patients had previously been operated upon by others unsuccessfully, the first, two simple mastoid operations in England, the second a simple mastoid operation, attempted radical operation in Russia and an unsuccessful radical operation in America.

Cleveland Medical Society.

Oct. 13, 1899.

TREATMENT OF CATARRHAL CONDITIONS WITH THE SINUSOIDAL AND OTHER ELECTRIC CURRENTS.

Dr. W. F. Brokaw related his experience of over two years, and the treatment of something over 250 cases, particularly in nasopharyngeal catarrh, nasal hyperesthesia, etc. By using the apparatus so that the current can be properly controlled, with pure copper electrodes, and with the technic of the applications carefully carried out, results were obtained greatly superior to any known method. Without seeking to eliminate operative or harsh measures, cautery, etc., the results have demonstrated that about 90 per cent. of such measures can be obviated.

Dr. J. H. Lowman expressed surprise that the essayist said that atrophic rhinitis yielded as readily as the hypertrophic form to treatment with the galvanic current.

Dr. J. M. Ingersoll had had no experience in the use of the electric current in these cases, but thought that, as occlusion of the nares was frequently caused by exostoses on the septum, it would not yield readily to this treatment. In hypertrophic rhinitis he thought the current would be beneficial. He wished to know the length of time the essayist treated adenoids before pronouncing them cured.

Dr. Brokaw, in closing, said that the conclusions from his work in this line were as much of a surprise to himself as they could be to any one else. In regard to the method being beneficial in both the atrophic and the hypertrophic forms of rhinitis, he explained that fact by the supposition that the current restored the normal tone to the vasomotor supply of the nose in each case; that is, increased the circulation in the atrophic form, and decreased it in the hypertrophic form. He said it usually required from three to six months' treatment to clear up adenoids. He admitted that there were some patients who could not be cured by this method, and said the method was very simple and open to everyone to give it a trial.

WHOOPING-COUGH AND RICKETS.

Dr. John H. Lowman read a paper on this subject.

Dr. W. E. Wirt noted that rickets was much more frequent in the eastern cities of this country than elsewhere, no doubt for the reason that the poor are huddled together in much smaller dwellings in those cities. He had not seen so many nor so great deformities resulting from rickets in Cleveland as he had in New York City. He spoke of several cases that he had seen of very marked deformity of the chest due to rickets. At present he has in hand a man 66 years of age on whom he intends to operate for knock-knee. This occurred in youth and remained stationary during adult life, but began to increase excessively following a stroke of apoplexy six years previously.

Dr. C. J. Aldrich described the curious phenomenon of "head-banging" which English authors have pointed out as at times occurring in rickety children. He has seen one such case in Cleveland, in which there was well-marked evidences of rickets, such as an enlargement of the wrist and a dorsal pad on the foot. These children unless restrained, are constantly endeavoring to throw their heads against any hard substance, with the result that their heads are covered with bruises and it is necessary to completely pad the beds in which the children are kept. He spoke of the peculiar rolling motion or nodding spasm of the head that also occurs in these cases and which is, as a rule, associated with lateral nystagmus. He disagreed with the essayist's statement as to preventing deformities by keeping these children off their feet, and had seen cases with greatly curved limbs in children that had never attempted to walk. He noted the persistent asthma and cough of rickets along with other disturbances of the respiratory tract and also the frequent combined fatness anu paleness of these children.

Dr. O. T. Maynard of Elyria said that the classing of rickets among the sequels of whooping-cough appealed to him as being a valuable thought and one explaining a number of cases in his own experience. The want of pure air undoubtedly is one of the causes of rickets, and this cause is practically effective in whooping-cough, as the children suffering from this disease are too frequently, through a mistaken motive of their parents, confined too closely to the house.

Dr. B. E. Sager had been told by a surgeon at the Hospital for Children, at Great Ormsby Street, London, that rickets in England was more prevalent in the country than in London and gave as a reason that nearly all the best quality of mil was sold in the city.

Dr. Wirt asked Dr. Maynard if the milk from Elyria wa all sent to Cleveland. He also noted the fact that the deform ities, which occur in rickets before the child has walked, ar due simply to contraction of the muscles on the soft bones.

Dr. I. Friedmann inquired whether mixed races of people ar more liable to rickets than the white race.

Dr. G. W. Crile had observed in Cuba, Porto Rico and Me ico, where the people live in extreme poverty, that rickets is the rule among the children.

Dr. L. Reich had observed that many cases of gastro-intestinal disease dated their origin from an attack of whooping cough.

Dr. N. Rosewater asked whether the essayist had noted the frequent association of urticaria with rickets.

Dr. C. F. Hoover asked the essayist what he thought of Kassowitz's method of treating rickets with phosphorus and practically nothing else.

Dr. Lowman said, in closing, that the discussion had illustrated the prevalent lack of exact knowledge as to the underlying changes that constitute rickets, but the disease certainly would appear to be entirely dependent on the quality of the food furnished the child. He thought that phosphorus should be used in grave cases, but he had not used it in the ones he reported because they had yielded promptly to fresh air, pure milk and plenty of sunshine. The feeding of children on artificial and farinaceous foods, to the exclusion of cow's milk, is beyond question responsible for a proportion of the cases of rickets; even sterilized milk is not as desirable a food as is raw milk. Rickets is very rare in Japan, where children are nursed up to the third or fourth year, and where the houses afford little or no prevention to the free circulation of the atmosphere. The point he chiefly wished to make in his paper was the fact that rickets may develop in five or six weeks in a child sick of any general disease, especially if there is intestinal disturbance that necessitates considerable limitation of food. Such cases in convalescence must be treated entirely differently from those in which there is a simple weakness following acute disease. Therefore it is very important to make a correct diagnosis of the condition.

GALL-STONE OF UNUSUAL SIZE.

Dr. J. H. Lowman presented a gall-stone more than an inch long and three-quarters of an inch in diameter, consisting of pure cholesterin, that had for five days caused grave symptoms of intestinal obstruction in a woman 65 years old. There had been fecal vomiting but no elevation of temperature. Because the stone consisted of pure cholesterin it must have been formed in the gall-bladder, but at the same time it must have passed through the common bile-duct without pain or jaundice, as there was positively no history of either. He did not think it could have ulcerated through because the woman had enjoyed perfect health for many years.

Dr. Hunter Robb was inclined to think that the calculus passed through the common bile-duct during the five days when there were signs of intestinal obstruction.

Dr. R. J. Wenner remarked that the absence of fever would indicate that the obstruction was in reality a reflex ileus.

Quarterly Meeting, Oct. 27, 1899.

ACUTE DILATION OF STOMACH WITH REMARKS ON DILATION OF THE STOMACH IN GENERAL.

Dr. H. W. Bettman, Cincinnati, Ohio, delivered the lecture of the evening on this subject.

Dr. M. Rosenwasser pointed out the fact that the cases reported in the paper of the evening dated, in many instances, as far back as 1850, since which time our ideas of sepsis and of abdominal diseases have undergone a perfect revolution. Probably many of these old necropsies were very imperfetcly made. He believed that the distended stomach is often purely secondary to the septic condition, and noted that in some of the reported cases septic foci had been found. Dilation may have caused death secondarily, but not primarily. In the cases reported it seems that collapse preceded the distention, which then could not have been the cause of the collapse. Distention after collapse is very common in septic infection.

Dr. H. W. Rogers spoke of the relation, in his experience, of distention of the stomach to cardiac disease. He noted a case of enlarged heart, with final death from rupture, in which the stomach was found greatly distended, and another case of a young man, addicted to the overuse of alcohol who dropped dead immediately after taking a Seidlitz powder. It is a common thing in the heart disease of old people to find an accompanying dilated stomach; and he wished to know if there was any relation between the two conditions.

Dr. C. J. Aldrich reported a case of enormously distended stomach in a hysteric subject, caused by the patient voluntarily swallowing air in large quantities. In this case he was able to persuade the patient to perform this operation while he was watching. He had seen another case in which he was sure the distention was produced in the same way.

Dr. N. Rosewater reported a case of gastric dilation occurring in a woman 19 years of age, during convalescence from la grippe. Along with the dilation she had quite general tetanic rigidity. In all of these cases of acute dilation large quantities of fluid that contain a great deal of bile are vomited. As bile is very toxic, the question arises whether there is not a good deal of absorption of bile in these cases, with consequent symptoms of collapse. He suggested that in some of them there is suspension of the functions of the kidney, and that the stomach tries to compensate the kidney as an excretory organ.

Dr. N. Stone Scott said that dilation is always a symptom and secondary to the hypertrophy of the stomach wall that follows chronic stenosis of the pylorus. He questioned the desirability of discussing a symptom, as had been done in the paper of the evening, without taking into account the antecedent conditions, and regretted that the paper had not thrown more light on the obscure forms of gastric dilation that are associated with regurgitation of bile.

Dr. L. Reich said that there are many cases of large stomachs not preceded by a stenosed pylorus or hypertrophied gastric wall, as for instance the dilated stomachs of gluttons. Also among excessive beer drinkers, this sort of dilated stomach is not uncommon. These cases can be remedied by reducing the amount of fluid taken and by insisting on a dry diet.

Dr. R. J. Wenner reported a case of a young woman, taken sick ten weeks previously, with all the symptoms of typhoid fever, including positive Widal reaction and also the diazo reaction. During the fourth week, when she seemed convalescent, vomiting of large quantities of yellowish-green fluid began. This was out of all proportion to the quantity of fluid ingested. There was a distinct succussion sound over the lower part of the abdomen. Lavage twice a day for a number of days brought relief, until a distressing tachycardia set in, the pulse running from 140 to 170. Then the vomiting recommenced. The patient is still in this condition and the stomach has been outlined at three-fingers breadth below the umbilicus. He had seen another case of acute dilation in a patient whom he had operated for pelvic abscess. In this case there was a profound septic condition.

Dr. H. W. Bettman, in closing, said that a few years ago he had shared the extreme view of the surgeons that gastric dilation must be preceded by stenosis of the pylorus and hypertrophy of the stomach wall. The cases he had reported, however, had shown clearly that dilation of the stomach very frequently occurs without any antecedent stenosis. He said that we must have a clear conception of the criteria of a disease. This would be about as follows: 1. The conditions which the disease seemed to produce have not existed prior to the onset of the attack. 2. At the necropsy evidence of the disease shall be manifest. 3. The symptoms produced shall seem warranted by the post-mortem findings. All these conditions had been fulfilled in the cases of acute dilation of the stomach that he had reported. As to the date he places almost as complete reliance on the post-mortem findings described by Hilton Fagge in 1870 as he would on a necropsy done before his own eyes. To say the condition is secondary throws no light on it any more than to consider diphtheritic paralysis purely as a part of the antecedent disease. The regurgitation of bile into the stomach is by no means a symptom of dilation, and not infrequently occurs in a healthy individual after somewhat prolonged fasting, and he doubts whether it has any special significance in relation to the conditions under discussion. A certain number of cases of dilation of the stomach have recovered after the operation of gastroplication, which could hardly occur if there had been, as the surgeons maintain, a stenosis of the pylorus. The relation of disease of the heart to stomach dilation is not altogether clear. A number of cases of chronic dilation of the stomach have been reported that lead directly to death, not a few of them occurring suddenly after partaking of an excessive meal, and very often in these cases nothing is found wrong with the heart.

Medico-Chirurgical Faculty of Maryland.

Semi-Annual Meeting, Westminster, Nov. 14, 1899.

THE FACULTY'S CONTRIBUTION TO THE WELFARE OF THE STATE.

Dr. Eugene F. Cordell, whose subject was "The Medical and Chirurgical Faculty's Contribution to the Welfare of the State," in a review of the career of the Society since its foundation, June 3, 1799, showed how it had rendered important and valuable service in regulating medical practice, in ridding the state of quackery, in introducing vaccination, in advice to the authorities, in procuring needed legislation, in introducing sanitary reforms, and in various other ways.

HOME TREATMENT OF CONSUMPTION.

Dr. Wm. Osler, in a paper on this subject, said that of the cases seen by physicians, 95 per cent. are unable to afford treatment away from their homes in the city. Of the 8000 to 10,000 cases in Baltimore, few live under a strict régime. Arrest or cure is a question entirely of nutrition, and the essential factor is to improve the resisting forces of the body so that the bacilli can not make further progress, but are hemmed in and either effectually prevented from breaking through the intrenchments, or in rare cases are forced to capitulate.

Of the measures by which the general nutrition may be encouraged and improved, the first and most important is fresh air. For more than two centuries the clearer-headed members of the profession have known that an open-air life sometimes cures a case of phthisis. One of the earliest and most interesting cases of this kind is reported by John Locke, the philosopher, in his "Anecdota Sydenhamiana." The quality of the fresh air in our large cities may not be very good, but it is the best a large proportion of our patients can possibly get to breathe, and it is much better than the atmosphere of the overheated rooms in which a majority of them live. He tells patients to take the almanac and count off the hours of sunshine. In winter cut off two hours in the morning and an hour in the evening, and for the rest of the day be out of doors. If there is no possible arrangement for life out-of-dors, the patient is to be in a room with a southern exposure. The bed is to be moved into the sunshine, with the windows wide open. If there is a balcony or verandah with a good outlook toward the south, it should be arranged for the patient, if not, a shelter can be put up in the yard at a very moderate cost. On a well-padded lounge covered with a couple of thicknesses of blanket, well-wrapped up, the patient sits or reclines all day, coming in only to attend to the calls of nature. Only on blustery, stormy or very rainy days is he to remain in the house. A table can be arranged so that the midday meal may be taken out of doors. No degree of cold is a contraindictation. This continuous open-air life at rest is the most powerful influence we possess to-day against the fever of tuberculosis.

As to the diet, the stomach controls the situation in pulmonary tuberculosis. In any long series of cases the patients who do well are those who take plenty of food. An important cause of the lack of appetite and feeble digestion is the persistent fever, and we often find that as the temperature falls the appetite improves. It is easy to lay down rules, but hard to carry them out. Each case must be dealt with separately, but as large a quantity of food as possible should be given. Overfeeding or stuffing, when possible, should be practiced, and the patient should be encouraged to pay little attention to his subjective gastric sensation. For some time he has been urging patients to accustom themselves to taking raw eggs, beginning with one three times a day and increasing one a week until they take, if possible, twenty or twenty-four a day. Broken into the egg cup, sprinkled with a little pepper and salt, the egg can be readily swallowed without breaking the yolk. It is most important to get the patient accustomed to take the natural foods, milk, cream, butter, meat, eggs and oysters.

The medicinal treatment of cases may be divided into: 1, the use of stomachics, bitter tonics and certain digestives; 2, remedies such as cod-liver-oil, hypophosphites and creosote, the benefits of which are chiefly in promoting nutrition; 3, remedies for relief of symptoms, as cough, pain and night sweats.

A rigid régime, a life of rules and regulations, a dominant will on the part of the Doctor, willing obedience on the part of the patient and friends, are necessary in the successful treatment of pulmonary tuberculosis.

Dr. C. S. Millet, Brocton, Mass., continued the subject with a report of five cases treated by having the patients sleep out of doors. He exhibited photographs of the sleeping quarters of these patients, usually a bed arranged on a platform built out from an upper window and without roof.

RECENT METHOD OF TREATING HYPERTROPHIED PROSTATE BY ELECTROCAUTERY.

Dr. W. H. Young described these methods. By recent improvements made in this instrument, the prospects of benefit are very much increased. It is not adapted, however, to all cases, and it is uncertain whether the improvement is permanent. Castration has proved disappointing, and extirpation successful in some.

USE AND ABUSE OF HYDROCHLORIC ACID IN GASTRIC DISEASE.

Dr. J. C. Hemmeter, in his paper on this subject, said that digestion can go on for a time without hydrochloric acid. This drug should never be given except after examination of the contents of the stomach, which is not difficult. Either the contents can be removed after a test-meal, or a gastric tube can be introduced and the end then applied to red Congo paper when, if acid be present, the characteristic azure-blue color appears. Dr. Hemmeter is constantly meeting with cases where the acid is being given, although present in normal or excessive amount.

MEDICAL CONDITIONS IN THE PHILIPPINES AND INDIA.

Drs. Simon Flexner and **L. F. Barker**, in a paper on this subject, said that at Manila they had not found the ameba coli constantly in dysentery, and on the other hand had found it in the healthy intestines. It had lost much of its supposed significance in this disease. A bacillus was found, believed to be the cause of the disease, and has been isolated from a number of cases of dysentery.

Topeka (Kan.) Academy of Medicine and Surgery.

Oct. 9, 1899.

INDIGESTION.

Dr. W. L. Warriner's paper on this subject was read by the secretary, the doctor being unable to be present. He classified stomach troubles as: Reflex, functional, and organic. By reflex is meant the condition of the stomach in which its function is impaired by diseases or conditions of the system which exist elsewhere than in the stomach, such as great emotional excitement, violent anger, etc. When this reflex condition occurs in a very nervous person we call it nervous dyspepsia. We meet it in hysteric persons also and in hypochondriacs. Where the functions of the stomach are disturbed the condition is usually called acute or chronic indigestion or dyspepsia. The third class—organic diseases—is divided into inflammatory and non-inflammatory, the former including acute and chronic gastritis or catarrh while non-inflammatory includes such diseases as dilatation, ulcer, new growths, etc.

He spoke in particular of the treatment of some of these troubles. He does not treat gastritis with acids or alkalies, as most authorities suggest; and asks how we can tell when to give an acid and when to give an alkali, and whether before or after meals. He spoke of several authorities who contradicted each other in the use of such remedies.

The cause of nearly all functional and inflammatory conditions is improper diet. In the treatment of all kinds of stomach trouble we should carefully regulate the habits of the patient and a rigid diet should be written out for each. He reported a case of exophthalmic goiter which had been unsuccessfully treated, but which recovered as soon as he treated the cause, which he considered was stomach trouble. Micro-organisms play a prominent part in stomach disorders.

He relies for the medical part of the treatment almost entirely on antiseptics, together with proper regulation of diet, prohibiting all starchy foods on account of the fermentation, and having the patient eat sparingly and keep the bowels regular.

Dr. Ida C. Barnes reported a case of exophthalmic goiter similar to the one referred to above.

Dr. Hall spoke of the indiscriminate use of digestants by the patients themselves.

Dr. B. D. Eastman emphasized the fact that most of the cases of indigestion were caused by bolting the food. No liquids should be taken while food is being masticated. He has found taka diastase very beneficial.

Dr. L. H. Munn said the patient should be fed well.

Dr. C. E. Munn told of his experience with such cases during his thirty-seven years with the army, and said: Eat everything, use no medicines, drink abundance of cold water and take plenty of exercise. At first the patient should be starved a day or two until he is hungry enough to eat.

CANCER OF STOMACH.

Dr. Ida C. Barnes reported cases: The first was one of cancer: Mrs. R., aged 60, lost 40 pounds since January, 1899. She had lost her appetite, and complained of intense pain in the region of the stomach. Two brothers and sisters had died of cancer. Slight biliary reaction of the urine existed, and there was a large sensitive tumor in the epigastric region. The treatment was tonic and dietary, with morphin to relieve pain. The Doctor thinks she suffered more than she would admit for fear of having a diagnosis of cancer made. Later a "specialist" promised to cure her by treatment through the eye, and at last the "divine healers" took her in charge, but she died a few weeks ago.

DIPHTHERIA.

Dr. Barnes reported another case, of diphtheria, where one injection of 1500 units of antitoxin was sufficient, and the membrane disappeared in four days.

Dr. C. E. Munn spoke of the enormous decrease in the mortality from diphtheria in Denver Col., and said that undoubtedly such a good record was made because nearly every physician of Denver used the antitoxin freely and fearlessly. It is criminal to neglect its use at an early opportunity.

Nov. 6, 1899.

CHICKEN-POX.

Dr. T. W. Peers read a paper on this subject, and especially discussed the disease now epidemic in this city. He spoke of it as chicken-pox or possibly a light form of smallpox. He referred to Holt's statement that chicken-pox is not confluent, while here the eruptions are confluent. There have been no deaths in about 300 cases occurring here. He also gave a detailed account of the symptoms and onset of the disease. There are slight prodromic symptoms and about the fourth or fifth day the eruption, which has a shot-like feeling, appears, but on pinching the papule that sensation is lost. The eruption comes out in crops, forms vesicles, some of which are umbilicated. Desiccation occurs and the scabs form without pustulation. Some have fever throughout the disease and others have it until the eruption appears. The cases usually last from four to six weeks.

Dr. B. D. Eastman said that the three important symptoms or points are lacking to make the diagnosis of smallpox in the patients here—too long a period of succession in the eruption, no proper umbilication and no secondary fever.

Dr. J. E. Minney thought the symptoms those of malignant chicken-pox.

Dr. D. Longshore asked if there was any odor present in these cases, as in smallpox, and was answered negatively, except as to a negro man who died, and who had a cadaverous odor, but he expectorated large quantities of pus which probably caused the odor.

CASE OF EYE TROUBLE.

Dr. J. E. Minney reported a patient with eye trouble, failing vision, perverted vision; glasses did not help him. Ophthalmic examination showed muddiness of the vitreous, retinitis. He suspected specific trouble. The urine analysis showed a heavy deposit of phosphates. He also had optic neuritis. Treatment was nux vomica, with no benefit. On taking him off the iodids, the phosphates cleared up. Possibly some brain lesion exists.

Cincinnati Academy of Medicine.

Nov. 6, 1899.

ABSCESS OF NASAL ORIGIN.

Dr. Derrick T. Vail presented a patient with abscess in the region of the tear sac, of nasal origin. The patient, aged 36, presented a tumor which had all the classic appearances of a case of acute purulent dacryocystitis. The swelling began about ten days ago; it increased rapidly to its present size; the skin took on the peculiar bronze coloration such as is seen in abscess of the tear sac. The location corresponded exactly to the anatomic situation of the sac; there was and is now fluctuation, tenderness and pain present. The temperature is 100. Epiphora has been present from the outset. Nevertheless, it is not an abscess of the tear sac. This was positively proven by passing a No. 1 Bowman's probe down through the nasal duct; also by forcing a stream of normal salt solution, by means of Anell's syringe, through this duct. The water went through readily and came out of the nose in a stream as clear as when injected. Examination of the nose revealed that the middle turbinated bone was enormously enlarged, so large indeed as to press against the nasal septum, and one could see yellowish creamy pus oozing from the middle meatus. This rendered the diagnosis of extrasaccular abscess from nasal origin a tenable one. The man has had syphilis, and the anterior ethmoidal cells and their surroundings have become the seat of necrosis, probably as the result of the specific disease. In place of the pus breaking through the nose, as it usually does, it has burrowed outward under the tear sac, stripping up the periosteum and causing a subperiosteal abscess.

The Doctor stated that it was manifest that slitting the canaliculus and passing a probe down through the duct would not reach the seat of trouble. He proposes removing the anterior portion of the middle turbinate bone and curetting the ethmoidal cells. The man will in addition be placed on a vigorous antispecific treatment.

FIBROCYSTIC TUMOR OF UTERUS AND OVARY.

Dr. Giles Mitchell presented a specimen of this condition. There was irregular menstruation about three years ago, both menorrhagia and metrorrhagia. The diagnosis made at that time was small fibroid tumor. About a year ago the menstruation became regular, and until six months ago the patient had no trouble in this regard, but considerable discomfort due to the size of the tumor. Since a year ago the tumor has been growing very rapidly. During the last four months she has been complaining greatly of abdominal pain. The operation itself presented considerable difficulty. The omentum was very adherent to the tumor and had to be ligated. The hemorrhage was very severe. The principal complication was the adherence of the bladder wall to the anterior portion of the tumor over a very wide area, and this was separated with the greatest difficulty, but without injury to the viscus.

EXTENSIVE OSTEOMYELITIS OF VERTEBRAL COLUMN.

Dr. C. E. Caldwell presented specimens from a male, aged 30, a porter. When admitted to the hospital, his chief complaint was pain in the back and chest. The family history is negative. He admits venereals and alcoholism. Five months ago he hurt his back trying to lift an ice-chest. Physical examination on admittance was entirely negative. He was placed in the neurologic ward and regarded as a malingerer, as he had no symptoms of localizing character. He was carefully examined by the neurologists of the hospital, at intervals, but he had been in the house many weeks before the chest wall was found to be deformed. At this time there seemed to be a sudden collapse of the chest wall, probably due to a letting down of the bodies of the vertebræ. The remarkable feature of the case was the sudden and unexpected onset and the signs of organic disease. Two and a half months after the sudden onset he was transferred to the orthopedic service and a plaster jacket applied; this, however, was soon removed, owing to the great discomfort it occasioned. Two months after compression, paraplegia developed. The onset of the latter was sudden. The legs were completely paralyzed and the bladder was involved. Decubitus developed a few weeks before dissolution.

Post-mortem showed that the sternum bulged, with collapse of the chest walls. Muscular development was poor. A few small tubercular points were found in the lungs, with adhesion of the pleuræ, especially on the left side. The heart, liver and spleen were normal on macroscopic examination, the kidneys pyonephrotic, the right especially so. On opening the latter a large amount of pus escaped, and in it were found little hard round bodies, probably of calcareous nature. On the back was a large bed sore exposing the spinous processes. The vertebral bones were absolutely rotten, and the bodies of the vertebræ could be easily broken up with the finger. No tubercles could be found either in the vertebral column or in the cord. Microscopic examination of the latter has as yet not been made. The ribs were so softened that they could easily be cut with a knife. The thick portion of the ilium and the acetabulum on the left side is also greatly disintegrated. The etiologic factors are obscure. He gave as an opinion that influenza might be the underlying cause.

Philadelphia Pathologic Society.

Nov. 9, 1899.

ILLUMINATING GAS POISONING.

Dr. P. W. Darrah, by invitation, read a paper, the basis for which was a series of experiments made on dogs. The different constituents of illuminating gas are, principally, hydrogen, carbon monoxid, illuminants, carbonic acid, and oxygen. The principal toxic ingredient is carbon monoxid, owing to its destructive power exerted on the hemoglobin of the blood. A dog thus poisoned first suffers from dizziness, later unconsciousness, with finally death. No convulsions were observed. In the efforts made to bring about resuscitation, strychnin and other stimulants were given, without relief. Hydrogen peroxid was also tried, injected into the tissues and also intravenously, but proved of no avail. Blood transfusion was next tried and the animals recovered. In control animals, death ensued. In some of these latter death did not occur for several days. The animals from which the blood was taken recovered. His conclusion was that it might therefore be said that the introduction of hydrogen peroxid, or normal saline solution in cases of poisoning by illuminating gas does no good, while transfusion of blood brings about recovery in such animals as dogs.

Dr. H. A. Hare was of the opinion that the transfusion of blood in poisoning by illuminating gas was not usually feasible. He could not understand why the use of normal saline solution used in the same manner would not bring about the same results as that of blood, by diluting the poison in the blood-vessels. In some experiments made several years ago by Dr. Edward Martin and himself, they found that the inhalation of oxygen in concentrated form also proved beneficial in such cases.

CARCINOMA OF STOMACH, INVOLVING PANCREAS, OMENTUM AND LIVER.

Dr. A. E. Blackburn presented a specimen of this condition. The patient was a man 54 years of age. His history was negative. For five months previous to his death he had complained of weakness, nausea and vomiting, constipation, and tenderness over the abdomen, most marked over the epigastrium. Nodules could be felt in the right hypochondrium. No jaundice had occurred. Autopsy revealed the body of a man much emaciated, the abdomen containing about 1½ pints of fluid. The heart was in systole; the bile-duct patulous, the gall-bladder distended, the pancreas enlarged, the omentum thickened and studded with nodules, and there was congenital absence of the left kidney. Examination of the stomach showed thickened mucosa with cancerous infiltration. The liver cells also showed many evidences of infiltration.

CEREBROSPINAL MENINGITIS.

Dr. F. A. Packard exhibited card specimens from a case of this affection.

Dr. Simon Flexner said it was interesting to observe how, from time to time, different writers have shifted their position in regard to the specific bacteria as the causative agent in this affection. In one epidemic he found that the pneumococcus was the micro-organism principally met with, while in another series the diplococcus intracellularis was found.

ENDOPHLEBITIS.

Dr. Arthur V. Meigs presented card specimens from a case which he would designate as one of endophlebitis, in the same sense as the word endarteritis is used. The vessel was removed from a localized area found in the foot. Microscopic section showed a condition he had never before seen. The patient was a man of 29 years, and the year before had suffered from syphilitic infection. On examination the vessel was found hard to the touch and pulsation was distinctly seen. An incision was made on it, and a portion of the vein removed. He was certain it was a vein because venous blood escaped from the cut ends. The most characteristic change is the marked overgrowth of the intima which almost obliterates the lumen of the vessel. Thickening of the muscular layer has also occurred to some extent. Another peculiarity was observed in the sections, and that was the appearance of bodies resembling a bunch of earth worms. This he had not met with before. Degeneration of the heart muscle was also present.

Dr. Alfred Stengel stated that in the specimen presented the process had extended further than any he had ever seen. He had in one case seen endophlebitis which might have resulted from syphilis.

Dr. W. M. L. Coplin, in a study of diseased condition of the blood-vessels occurring during gangrene of the leg, found that in most cases much proliferation of the endothelial cells had been found.

CARCINOMA OF DUODENUM.

Dr. M. H. Fussell exhibited a case of primary carcinoma of the duodenum. The autopsy showed adhesions of the pleural surfaces with chest walls. Although a murmur had been detected on examination, there had been no lesion of the heart found post-mortem. The heart was flabby and pale.

RETROPERITONEAL ENDOTHELIOMA.

Dr. J. D. Steele exhibited card specimens from an endothelioma occurring retroperitoneally. The patient was a child of 4 years, who had been well until a year preceding its death. Six months before death an enlargement was found in the abdomen, the tumor occupying the entire left side of the abdomen later in the disease. At the autopsy metastatic growths were found. The center of the mass was cheesy, while the outer surface was smooth. The tumor was pressing on the left kidney, which was flattened. Some of the blood-vessels were devoid of the appearance met with in case of carcinoma. Many of the cells had an oval nucleus, and karyokinetic figures were seen. Hematoxylin brought out the characteristic appearance better than did the Van Gieson stain.

Detroit Academy of Medicine.

PLEA FOR EARLIER DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.

Dr. George Duffield read a paper with this title at the last regular meeting of the Academy. The paper gave in detail the pretubercular signs, i. e., before the tubercle bacilli can be found in the sputum, by which a diagnosis should be made. Among these special stress was laid on: 1. The facial expression: the bright clear eyes, the whiteness of the skin, and the deep red of the mucous membrane of the lips. 2. Inspection of the chest: the poorly-developed chest, especially in the anteroposterior diameter, the sloping shoulders, the wing-like position of the scapulæ so well seen in the tendency to stoop. 3. The early auscultatory signs which careful examination will usually reveal. 4. The condition of the circulation, which Von Ruck considers of more importance than the temperature, especially the increase in the pulse-rate late in the day and the accentuation of the pulmonic second. 5. The most important point in the early diagnosis, however, is the use of the watery extract of the tubercle bacillus (Von Ruck). One-tenth of a milligram hypodermically will produce a rise of temperature, highest in the early stages but gradually lessening as the disease advances. No reaction occurs in the healthy individual. Its use is both safe and positive, but unnecessary when the tubercle bacilli are found in the sputum. Details of the use of this watery extract in the treatment of thirty patients in various stages of phthisis showed improvement in all, but especially in the incipient ones.

The discussion brought out the fact that the serum treatment of tuberculosis had not yet proved itself of any real merit, in spite of all that had been done with it, and that we had made no improvement over the hygienic methods of our medical predecessors.

Kansas City Ophthalmological Society.

At its annual meeting, November 13, this Society elected the following officers: president, F. B. Tiffany; vice-president, LeRoy Dibble; treasurer, F. G. Murphy; secretary, F. F. Reyling. Dr. Murphy reported a case of paralysis of the external rectus of the right eye, by an injury to the sixth nerve the result of a fall fifteen years ago, in a man 49 years of age.

Dr. Burke reported a case of blindness in a boy of 7 years, from papillitis. Dr. Tiffany reported a case of blindness, biateral, from embolism, in a man of 50. Dr. Murphy also read a paper on the injurious effects of books on the eyes. He said that the curved lines, with one's inability to prevent light reflections entering the eyes and the long lines used in our textbooks were injurious to the eyes. He advocates having the ines run parallel with the binding so that the lines will be straight and books could then be properly lighted by leaving the light come from the side.

Thirteenth French Congress of Surgery.

OPEN SURGERY—A CIEL OUVERT.

Professor Poncet's opening address, on this subject, proclaimed the advantages from every point of view of large incisions, extensive loosening of adhesions, counter-openings, resections of bone, drainage, the operator master of his field, able to see and know what he is doing, completing his task much more rapidly and without hesitation, and rendering the operation as little serious as possible. Research has established that no method of dressing a wound prevents the penetration of microbes, but as osmosis and capillarity, drainage and absorbent dressings are drawing the inevitable serous or sanguino-serous exudations outward, there are no stagnating fluids in closed cavities, and hence the microbes do not find favorable conditions for their development. Poncet therefore advocates draining all wounds, even the most aseptic "fluid secretions produce more or less tension and pain, and by their pressure on the tissues a tendency to inflammatory accidents, even if they remain aseptic."

TOTAL ABDOMINAL HYSTERECTOMY.

Ricard's address gave the statistics of this operation in case of fibromyomata as 1.232 with 9.65 per cent. mortality, and of supravaginal hysterectomy as 1.058, with a mortality of 4 to 4.5 per cent., proving the evident superiority of the subtotal operation. As to cancer of the uterus, Bigeard's statistics, collected from all sources, show a mortality of 17 to 20 per cent. after vaginal hysterectomy, while Auclair's thesis mentions 146 cures and 45 deaths after total abdominal hysterectomy or a mortality of 23 per cent., which improved technic will undoubtedly reduce. In respect to recurrence, Terrier and Olshausen report recurrence in 70 and 75 per cent. of the cases treated by the vaginal route. Bouilly has no survivals to date. Byrne has only 12 per cent. surviving out of 163 thus operated. Irish, on the other hand, has five patients on whom he performed laparohysterectomy over three years ago in good health since, out of nine. Only two of the others died from recurrence. Ricard's personal experience is nine cases, all but one absolutely inoperable by the vagina; the culs-de-sac invaded and the broad ligaments infiltrated. Two of these patients have been seen a year since the operation, in health. One died from septicemia, the ureter was involved in the neoplasm and was lacerated during the operation; recurrence in three in six months; the rest too recent to be mentioned. He rejects vaginal hysterectomy as merely palliative at the best, and the possible existence of a pelvic adenopathy removes every trace of justification for it. Terrier remarked that his mortality had fallen from 22 per cent. in 1896 to 8.45 per cent. of 59 total abdominals in 1899. He had three deaths in 15 cancer cases, with three deaths since; 5 recurrences and 2 suspicious indurations. Quénu confirmed the benignity and superiority of the supravaginal by 72 of these operations in succession, without a death. He reported three deaths in 100 total or subtotal abdominal hysterectomies for fibromyomata or severe salpingitis. Richelot took up the cudgel in behalf of vaginal hysterectomy against Ricard's sweeping condemnation, mentioning that he has only had 6 deaths out of 95 patients thus treated, and has survivals of nine to twelve years. Tuffier advocates retaining the ovaries whenever possible, and is urging more general adoption of hysterectomy for acute puerperal infection, as already noted in the Journal (p. 541). Villar recommends giving ovarian extract after abdominal hysterectomy. Several emphasized the urgent necessity of publishing the histologic details of the uterus and ganglia in operations, to serve as a basis for establishing the indications for intervention.

TUMORS OF THE BONES.

One conclusion dwelt on was the necessity of extremely extensive resections in these cases, far up in the sound bones. Pantoloni extolled the advantages of Roux' Y- anastomosis in surgery of the stomach: sutures only; no button; stomach easily emptied; no possibility of reflux of food into duodenum; no reflux of bile into stomach, while patients are able to eat from the first. Doyen described his modification of the Murphy button, which consists in hooks on each part, which hold them firm without ligatures or stitches, thus much shortening the length of the operation. He also exhibited his new forceps, which contains a knife: each branch of the forceps is introduced separately through a buttonhole in each of the organs to be anastomosed, and when the sero-muscular-serous sutures are finished, the knife is sprung out of its sheath and an opening cut between them, after which the forceps are removed and the buttonholes sutured.

French Association of Urology.

Fourth Annual Session, Paris, Oct. 19 to 21, 1899.

ESSENTIAL HEMATURIA.

Malherbe and Legueu, in addresses on this subject, denied the existence of an essential hematuria; it is always secondary to a general toxic or infectious cause or a renal affection. There is no medical treatment; surgical intervention should be restricted to a copious renal hematuria rebellious to ordinary measures: first an exploratory incision, and if there are no evidences of cancer, tuberculosis or other destructive lesion, this operation will prove sufficient in most cases, with secondary nephrotomy in the rare exceptions. If the kidney is found movable on nephrotomy, then nephropexy is indicated.

Guyon added two new observations of recurring hematuria during pregnancy to the ten on record. In one there was cystitis and in the other the kidney involved was hypertrophied, and tuberculous in one of Treub's cases.

Desnos reported five cases of hematuria in gout coinciding with exacerbations, but in each a calculus was found on nephrotomy or expelled spontaneously.

Pousson called attention to the possibility of retention from a valve closing the lumen of the ureter, causing hematuria as in a recent observation of his.

Albarran observed that since attention was called, in 1897, to the probable renal etiology of hematuria, not a single case of "essential hematuria" has been published. He communicated an observation of chronic hematuric nephritis, the seventeenth on record, almost all unilateral, and warned against the danger of hemorrhage in the course of nephrotomy in these cases, and also when the tampons are removed in case the kidney is not sutured at once.

Boursier remarked that uric acid alone may induce hematuria in well-to-do, gouty, arthritic subjects or their children, and that the paroxysmal, periodic hematuria of poor children can be traced to certain special digestive or nervous disorders which generate oxaluria and hence calcium oxalate crystals, which in turn produce the hematuria.

Hamonic mentioned five cases in which the hematuria preceded the clinical manifestations of renal tuberculosis or cancer, two to five years.

Guiard described his successful treatment of a case of calculus of the prostate by inserting a small lithotrite and crushing it *in situ*, removing the débris with a No. 1 lithotrite until the pocket was entirely evacuated. Not until this was accomplished was the dust washed out, with copious irrigation through a fine two-eyed sound in silk. The next day the patient was able to return to business.

A number confirmed the great value of Kotanyi's test: the lower freezing-point of urine, or cryoscopy, in estimating the excreting function of the kidney. "With scarcely any trouble it indicates with mathematical accuracy the quantity of the molecules eliminated, independently of their weight."

The palace of the last khedive at Helouan has been converted into a large sanatorium with accommodations for seventy patients, the first in Egypt. The *Archives Orientales* states that it will be opened in November with Dr. A. J. Bentley of Cairo in charge.

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SATURDAY, NOVEMBER 25, 1899.

SEPTIC FEVER AND TYPHOID INFECTION.

When the attention of physicians was first called to appendicitis as a common malady, it came as a surprise that this ailment, which is usually supposed to be most acute in its manifestations, could by any possibility produce symptoms which would mislead the practitioner into a diagnosis of typhoid fever. Yet our increasing knowledge of the subacute and chronic conditions of appendicular inflammation and of typhoid fever has proved to us that very great skill is sometimes required to make this very necessary differential diagnosis. So, too, it has not uncommonly happened that tuberculosis of various portions of the body, notably of the lungs and peritoneum, has been mistaken for typhoid fever; and the frequency with which malarial infection is so mistaken is positively startling.

Nor should we forget also that ulcerative endocarditis, cerebrospinal meningitis and subacute ileocolitis may cause an erroneous diagnosis. That this error continually occurs is proved by the cases which have been reported by those physicians who are frank enough to be willing to publish their errors for the benefit of their professional brethren. And that they have been justified in making such errors at times is proved by the character of the men who have made them; since often the skill of the physician who has made the mistake has been beyond reproach.

Attention has been again and again called to this subject by medical writers of the last two or three years, particularly by Keen[1] and by Hare[2], and our attention is once more called to it by the report of a cas recently made to the Section in Otology and Laryngology of the College of Physicians of Philadelphia, by D C. H. Burnett, one of the pioneers in otology in thi country. The case was one of suspected typhoid feve which was shown to be due to acute catarrhal otiti media. At first glance, it seems almost impossible that an physician could possibly have been misled by a catarrha otitis into the diagnosis of typhoid fever. Yet th presence of fever, of debility, or general wretchednes of simultaneous diarrhea and other symptoms of infection make those of us who have had experience recogniz that, while such an erroneous diagnosis ought not to b made, such an error is very readily fallen into if th physician is not on his guard. It would seem that physician called to a case of obscure fever must on th one hand never forget the possibility of typhoid o malarial infection, and on the other, be on his guard les he be too easily led into the belief that the symptom present are due to one of these infections when in realit they are due to some other cause. Such opportunitie for error can be put aside if in doubtful cases the physician will insist on being allowed a period of several day for the observation and study of the particular case t which he is called.

THE NEUROTIC FAMILY ELEMENT.

It is unfortunate that data on the relative importanc of the factors composing the neurotic family history i so conflicting. Observers still hold very divergent opinions on the value of nearly every sign of degeneracy The lack of unanimity in this respect is still mor strikingly in evidence in estimating the clinical signif cance of the so-called degeneration stigma, both in th antecedents and in personal history of the individua patient. The decision of the value of individual degeneracy must rest largely on the neurologist and psychiatrist, who have often been accused of too much zea and enthusiasm in placing excessive stress on degeneration-stigma in the prognosis and treatment of nervous diseases. However true this criticism may be, it i certainly far from being of general application, fo many of the German neurologists and alienists, such a Sachs and Oppenheim, discourage the prominenc given degeneration-stigma by English, Italian an French authors.

As to what elements in the family history are to b judged neurotic, depends in no small measure on th observer's instruction and clinical experience. Som writers seem to hold that only the most pronounce degenerative nervous affections, as the insanities, ep lepsy, and hysteria, should be considered in case takin Others, equally insistent, include all abnormalities, tumors, tuberculosis, and even premature aging and deat and, in short, they embrace all that marks the famil subnormal in vigor of mind or body. The two extrem views are found about equally common in neurolog literature. Clinical experience not infrequently sho that in whatever light the subject of family degeneracy will be finally viewed, many with nervous diseases recover, although possessing marked family as well as personal evidence of degeneracy; such patients also recover nearly as promptly as those showing a cleaner history. Statistics can be of little value in settling the matter of the neurotic family history, until a larger number of cases are collected in which both the absence as well as presence of the several factors are plainly stated. The neurologist is intuitively aware that degeneracy in the individual case is frequently much greater than he is able to obtain from the patient or his relatives; hence, his stress on that which he is actually able to prove.

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[1] Surgical Complications of Typhoid.

[2] Medical Complications in Sequelæ of Typhoid Fever.

Although there exists much doubt in regard to the desirability of counting all the possible family diseases as forming a neurotic element, thus placing it nearly on the same footing as the present mooted question of degeneration-stigma in the individual patient, yet careful consideration of both is absolutely essential in forming an opinion of the relative weight of the *predisposition* and *immediate excitant,* a point which the experienced clinician justly regards as the keystone to prognosis and treatment of any given nervous disease. It is interesting to note, in corroboration of this view, that the older and more experienced neurologists insist more strongly year by year that in the so-called functional neuroses, the neurotic predisposition shall be given more attention than the immediate excitant. There can be but little doubt in the minds of all giving the matter careful attention that the great pendulum of psychiatric research is slowly swinging toward the renewed study of the hereditary instability of the cerebral cortex, and the present day agitation of psycho-physical methods in psychiatric science is a fair index of this tendency.

ALCOHOL AND MISREPRESENTATION.

It is dangerous to say anything in favor of alcohol. This is not because it offends the temperance advocates. Stirring them up does no harm except, in certain circles, to the person thus offending. The peril lies in the ill-considered zeal of the alcoholists, if one may so call them. The slightest fact or statement favoring the use of alcohol as a beverage or admitting its possible value as a food is no sooner delivered than it is seized upon, nursed, dressed up and transformed so that its parent can hardly recognize it but for the label of his name, which, if it carries any authority, is studiously retained to give him, it may be, a bad eminence as the author of what he did not say, but can only vainly repudiate. Not long since we[1] had occasion to notice the revamping of some ten-year-old statistics of no special authority, and passing them off as if just endorsed by the British Medical Association. The rather recent experiments of Atwater, which were made under special conditions to exclude everything but the one question of the heat and energy-producing action of alcohol in the human body, have been published and quoted over and over again as showing that it is in all respects a valuable food and not in any way deleterious to the system. The fact that these experiments had no reference to the action of the agent on the circulatory or nervous systems, which are by far its most important effects, is never mentioned. The single truth that alcohol is consumed in the body, producing heat and energy, proves no more that it is a useful food, as one of Professor Atwater's colleagues says, than would the fact that gunpowder burns up, producing heat and energy, prove it a profitable fuel for the kitchen stove. There are more things to be considered in relation to this question than appear to be dreamed of in the philosophy of most people. The latest example of misuse and misrepresentation in this special way is brought out in the suit started against certain advertising liquor dealers, by a New York physician who recently read a paper on alcohol before an eastern medical association. Though many things reported in the paper were distinctly enough favorable to alcohol as a beverage and a medicine, the commercial instincts of the dealers could not, it appears, let them go undisturbed or in their normal connection, hence, the libel suit[2]. We would advise physicians and investigators who write on this subject to cultivate the greatest conciseness and exactitude of expression, to so word their communications as to preclude the possibility of misrepresentation or misconstruction, otherwise there is no telling what intellectual offspring they may be called on to father.

"COVERING" IN OHIO.

The secretary of the Ohio State Board of Medical Examiners has raised a question that might well engage the attention of other officials, whose duty it is to enforce medical practice acts. He finds that in his state there are a great many unlicensed practitioners associated with those who hold licenses, and he has asked the attorney-general for an opinion as to the liability under the law of these unlicensed associates and whether the license of those engaged in this "covering" practice can be revoked. There is some doubt among lawyers whether the statute covers these cases. If not, it should be amended, as it furnishes an open door to quackery in the co-operation of unscrupulous licentiates, and if these latter can not be reached there is no remedy. This practice of "covering" has been a serious question in England, but it is doubtful whether it is or has been as serious there as it is likely to be here in case an imperfectly-drawn-up statute leaves for it a loophole. This is a matter worthy of the attention of legislative committees of medical societies elsewhere than in Ohio.

SHOULD PHYSICIANS GIVE BONDS?

A West Virginia paper makes the suggestion that physicians as well as lawyers should be obliged by statute to give bonds for the faithful performance of their duties in the practice of their profession. It says: "In this State justices of the peace have to bond, and so do ministers of the gospel, and we can not understand any good reason for the other profession to be excepted from this protection to the public." The idea is a new one and the editor of the journal quoted might, we think, claim a patent on it. If physicians are compelled to give bond they might in justice demand that their patrons also give bonds, for there is no class that suffers more from the financial irresponsibility of others than physicians. We would respectfully suggest such an amendment to the proposed statute. The practitioner of medicine could stand the burden better were such an equitable system of mutual give and take adopted.

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[1] JOURNAL, October 14, p. 988.

[2] JOURNAL, November 18, p. 1303.

BUBONIC PLAGUE.

The fact that the bubonic plague has reached New York need cause no uneasiness. Every preparation had been made for such an occurrence and the health officers immediately took extreme precautions to guard against its possible dissemination. Naturally not a little alarm has been felt by the nervous ones, and some pessimistic reports have been started by the alarmists, but without reason. The plague is a disease that can be controlled as well as any of the contagious diseases, in fact, better than many. This applies, however, only under certain conditions. If it should get a foothold in the crowded and filthy parts, in any of our great cities, it might then become a serious undertaking. It would involve not only the isolation of human beings, but the prevention of infection by rats and mice, which seem to be susceptible to the disease and a great cause of its spreading. If these pests become infected, then there would be a more serious problem to attack. According to Professor Calmette's address at Paris recently, on this subject, several months or even years might elapse after all apparent danger had passed, and the disease might break out again, infection coming from the rodents from which the disease had never been eradicated. These and other peculiar characteristics of bubonic plague are well known to the quarantine and health officers of New York and other ports of entry, and they may be depended on to stamp it out before it can reach the slums, or the underground associates of human beings.

GASTRIC ULCERS IN THE COURSE OF PNEUMOCOCCUS SEPTICEMIA IN THE GUINEA-PIG.

The experimental lesions caused by the pneumococcus may present a fibrinous and hemorrhagic type, the latter being the result of the most virulent form of the microbe. In the rabbit, for instance, successive inoculations produce in the beginning a fibrinous reaction, later, when the microbes have passed through several animals, a hemorrhagic reaction. The same may be brought about in the guinea-pig, which is a refractory animal as regards the pneumococcus. The hemorrhagic lesions of the pneumococcus infection in the rabbit are observed especially in the suprarenal capsules, genital organs, the surface of the large intestine, and in some cases the wall of the stomach. When the ecchymoses in the stomach are situated in the mucous membrane, the action of the gastric juice rapidly transforms the small hemorrhagic areas into ulcers. This was demonstrated in three cases by Bezancon and Griffon[1]. The microscopic examination of the ulcers shows that the process is confined to the mucous and submucous coats. There is not much, if any, cellular infiltration about the floor and borders of the ulcers. The floor may present blood pigment, and the submucous vessels are dilated. These results are interesting, because they would appear to throw a little light on the obscure pathogenesis of gastric ulcers.

PHYSICAL DEVELOPMENT IN AMERICA.

Not long since the Journal noticed the increasing girth of the average American as reported from tailors' measurements. These apparently gave evidence that at the present rate of progress the future Yankee would be of Falstaffian proportions, which, as one would naturally prefer to be an Apollo rather than an exaggerated Bacchus, is not in all respects satisfactory. We can take some satisfaction, therefore, from the recently-expressed opinion of a distinguished Italian authority, Professor Angelo Mosso, who finds Americans far better developed and stronger than his countrymen, and who speaks of physical education being carried here to perfection. As an Alpinist of some reputation, as well as noted physiologist, Professor Mosso's opinions on this subject, however flattering, are entitled to respect, and we may comfort ourselves accordingly. Still another authority, not as high in medicine but undoubtedly a competent observer, Mr. Julian Ralph, has also noted the contrast between English and American women and children, the latter being, according to him, much better developed and more healthy than the former, the English boys being apt to be "runts" in comparison with the American boys at the same age. The stature of American women and their superior health is also, he says, a matter of astonishment to foreigners. When we read the jeremiads of certain medical writers in this country the above may come to us as a sort of comfort; we may not be as bad off as we had thought. The question arises, however, whether in our improving development we are to see a product like Hawthorne's celebrated description of the British matron, a result not to be earnestly desired. Let us hope that climatic and other influences, while perfecting the race, will also save us from any altogether unesthetic results.

CONTINUOUS SALINE IRRIGATION FOR GENERAL SEPTIC PERITONITIS.

The outlook in cases of general peritonitis from whatever cause has in the past been exceedingly gloomy, to state the prognosis mildly. A recent experience, however, would tend to show that with intelligent treatment at the hands of a bold surgeon, the result is not necessarily fatal. At a recent meeting of the Philadelphia County Medical Society, Dr. Ernest Laplace[2] reported the case of a woman suffering from general septic peritonitis, secondary to appendicitis, in which, after the abdomen was opened, adhesions freed, lymph-exudation removed, the appendix resected, through-and-through irrigation of the peritoneal cavity was established, and continued steadily for seventy-two hours, at the rate of ten pints of normal salt solution at a temperature of 100 F., every fifteen minutes, making a total of 360 gallons. The patient recovered. This case seems sufficiently noteworthy to be deserving of more than passing notice. It may be contended that the patient *might* have recovered with less radical manipulation, but the fact is that she *did* recover under the treatment employed, although death is the rule with other forms of treatment. In the absence of knowledge to the contrary, therefore, a large share of the credit for the fortunate result should be given to the special method of treatment pursued in this case. Irrigation of the blood through intravenous and subcutaneous infusion of saline solution has proved of so much service in the treatment of various toxemic and infectious states, that it seems a most rational step to apply the same principle in the treatment of extravascular conditions. It would thus appear that the continuous irrigation the surgeon has placed in his hands is a resource from which good may be expected in a group of cases in which the prognosis is now ominous, e. g., purulent accumulations in any cavity of the body.

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[1] Bull. et Mem. de la Soc. Anat., Paris, 1899, 74, p. 409.

[2] Journal, November 4, p. 1169.

PLAGIARISM EXTRAORDINARY.

We are fearfully and wonderfully made, and this is more true of our psychology than of our physiology. The mysteries of the human mind continually multiply upon us, and new facts are constantly springing up that defy our comprehension or explanation. The aggregate of human intellect seems sometimes insufficient, from the way it repeats itself, and the often-quoted line, "Two souls with but a single thought," seems more than pure poetic license. An apparent instance of this was that of a well-known preacher who was accused of delivering another's sermon, but who successfully defended himself on the ground of unconscious assimilation, or something of the kind. Even in prosaic medicine this forces tself upon us, as one of our esteemed contemporaries realized when it found a few years back, one of its orignal articles identical with a chapter in a well-known ext-book. A still more striking and recent instance is hat of the elaborate and excellent monographic chapter on "Operative and Plastic Surgery," in a lately pubished composite work on surgery[1]. This appears to be word for word the same as that by another author in a imilar volume of somewhat earlier date[2]. The unconscious assimilation worked here far more perfectly than n the case of the sermon where the deadly comparison of parallel columns of selected passages was required to how the resemblance; here we have identity of text perceptible at a glance. We can not explain this on any psychologic grounds. The fact transcends our science, but one can suppose if he chooses, the author living in elepathic communication, sharing the same intellectual ura, with his antecedent writer and working his neurons n beautiful unison with him. The difference in date s unfortunate, of course, for this theory, but it is only ne of those lacks of coincidence that we must consider s striking as a coincidence would be under other cirumstances. Such cases are certainly noteworthy and suggestive of new fields of study of the intellectual and ethical processes in the human brain. Some might think of the latter alone, but in such a case as this, considering the prominence of the earlier writer, one has to see a puzzling problem of intellect also involved. Such incidents, however curious and interesting to the student of humanity, are sometimes inconvenient and expensive to others. In this case the publisher has decided to call in the books already sold, and one of the editors is, we understand, working at his best to supplant the chapter in question by a new one that will not be a repetition of one previously published elsewhere.

POPULAR LACK OF APPRECIATION OF MEDICAL HEROISM.

In the recent mortality reports of medical officers of the Government, we read that Dr. W. R. McAdam[1], assistant-surgeon, M.-H. S., died October 12 at Key West, from yellow fever. This and many similar instances prompt the question: What proportion of the general public knows anything of the meaning of this announcement? Or even knows when these sacrifices occur? The lot of the medical hero is surely not to be laurel-crowned in this world. The medical officer of the United States may die at his post, manfully doing his duty, and usually sacrificing himself to protect his country from the inroads of dangerous epidemic disease, and the public passes heedlessly along attending to its business, but is ever ready to lavish praise on the hero of martial deeds. It was ever thus, and will probably so continue. To not a little degree the profession has itself to blame for the apathy displayed toward its self-sacrificing members. So long as medicine presents to the world a front that appears discordant and disorganized, it is too much to expect that the masses will see through this crust to the heroism that so often lies beneath. Again, until medical societies include all physicians and until meetings are held by our own organizations to commemorate the sacrifices of our noble fellows in medicine, the public will not be able to intelligently judge of the real merits of the point at issue. Indeed, the American people are tender-hearted and willing to reward recognized courage, and the medical profession must awake from its sloth if it desires to enjoy that prestige and honor to which it knows itself entitled.

THE TUBERCULIN TEST.

The present antituberculosis agitation seems likely to bring up some questions of medical casuistry, one of which is: Is it justifiable in all cases to use, as a diagnostic method, any measure that may arouse to pernicious activity a latent or quiescent morbid condition? Can we use the tuberculin test with a free hand until we are sure that the results may not be disastrous in certain cases? According to a recent advocate, this possibility is a recommendation rather than an objection. "The patient with tuberculosis active or passive," he says, "is living over a veritable sleeping Vesuvius apt to become active at any time and produce the most fatal results. The test is most valuable which finds the disease earliest." But people do live many years with latent or encysted foci of the disease, suffering nothing from it and spreading no contagion, and may even live out their natural term of life happily unconscious of the "sleeping Vesuvius" which, undisturbed, continues to sleep. Is it not the true wisdom in such a case to "let the sleeping dog lie?" In his recently published and highly commended work on tuberculosis, Dr. S. A. Knopf commits himself decidedly against this test. He says that while it may do nothing but reveal a latent tuberculosis in 999 cases, in the thousandth it may cause an unexpected and rapidly fatal generalization of the disease. Evidently others do not share his conservatism, for the tuberculin test is being largely used and is strongly recommended, notwithstanding the fact that death has occurred even within two days after the injection. How many latent cases have been revived into activity is unknown—there are no records. It has not only been used in doubtful cases, but in those not suspected of the disease, and in a considerable number who have reacted but have not been certainly proven tuberculous. The question is: Is this matter of a positive diagnosis so important in all cases that a risk should be taken? Would it not be better to trust to other signs in dubious cases, and is there any justification in subjecting, let us say, children with only enlarged glands or with adenoid growths, to such a test, until prolonged observation has shown that there is not even a remote chance of danger to life from its employment? Any actual curative effect of the injection, at least of the stronger tuberculin which is alone recommended for diagnostic use, is generally discredited at the present time, so the users have not that for their justification. We offer these as suggestions, but admit a preference for the conservative standpoint of Dr. Knopf.

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[1] Chapter XII. International Text-Book of Surgery. Edited by Warren nd Gould. Philadelphia: W. B. Saunders.

[2] Stimson's Manual of Operative Surgery. Philadelphia and New ork: Lea Bros. & Co.

[1] JOURNAL, October 28, p. 116.

Medical News.

The tea concert given in London, November 18, by Mrs. James Brown-Potter, for the benefit of the American hospital ship *Maine,* netted $37,000.

Dr. R. Stansbury Sutton, Cincinnati, has sold his private hospital, "Terrace Bank Sanatorium," which was founded by him in 1883. The property is to be converted into an apartment building.

J. Schwalbe of Berlin, one of the editors of the *Deu. Med. Woch.,* has compiled a valuable pamphlet containing a summary of the laws regulating admission to medical practice in ninety-eight civilized states, alphabetically arranged.

The secretary of war has granted leave of absence to Major Julian M. Cabell of the medical department. He has sailed for England to accept the position of surgeon on the hospital ship *Maine,* now being fitted out for South Africa.

Through gifts by Mrs. Sara Haldeman Haly, a new operating-room has been added to the Harrisburg (Pa.) Hospital. In addition the donor also contributed 300 shares of Harrisburg National Bank stock to endow and maintain this department.

Now comes a doctor from Paris with what the press have denominated a "cure for consumption." The new method advocated is the injection into the trachea of the oils of thyme, eucalyptus and cinnamon diluted with olive-oil. In justice to the Doctor, he speaks of it as a "treatment" and not a cure.

Abel Deval, M.D., after graduating in Paris six years ago, went on the stage and became quite a successful actor, still keeping up his medical practice. He has lately assumed the management of a small, fashionable theater, the Atheneé Comique.

A test case brought in Omaha, Neb., to determine the legality of osteopathy in that state has resulted in the osteopath being found not guilty of the charge—practicing medicine without a certificate. The case will be taken into the higher courts.

A woman of Rome, N. Y., died in that city a few days ago, through probable neglect from "Christian Science" treatment. No physician had been summoned and no medicine given, and the physician who made the postmortem is quoted as saying that under proper medical treatment life might have been prolonged for several years.

The corner-stone of the new building for the medical school at Lima, Peru, was laid by the president of the Republic on the first Sunday in September. It is to be fully equipped for all branches of modern medical instruction. We note, by the way, that the medics of Lima are the champions in the newly introduced *lucha sportiva,* football.

Professor Frosch takes the place at the Berlin Institute for Infectious Diseases, left vacant by Pfeiffer's departure for Koenigsberg. Braun of Jena goes to Wuerzburg and Heidenhain of Wüerzburg takes charge of the Institute of Anatomy at Tuebingen. Desmeth has resigned the chair of general pathology at Brussels E. Spehl has been appointed to succeed him.

The Tennessee State Board of Health has adopted resolutions declaring tuberculosis a contagious and infectious disease. It directs that all inmates of State institutions so afflicted be isolated in rooms or wards devoted to such patients, and that they be denied association with other inmates. The rooms, when vacant are to be thoroughly disinfected according to the most approved methods.

The yellow fever question throughout the countr contiguous to New Orleans is about settled, at leas for the present season. Ice, frost, and a temperature as low as 28 degrees have been general along the railroads verging to the city mentioned. The State Board of Health does not deny the presence of sporadic cases, bu merely claims that there is no danger to result from free communication with the outside world.

The enterprising editor of the *Gaz. Med. de Paris* Marcel Baudouin, also editor of the *Archives Provin ciales de Med.* and the *Archives Provinciales de Chirur gie* and founder of the Institut de Bibliographie, i actively continuing his campaign for the organizatio of a company to rent automobiles to physicians at lo rates, and hopes for its early realization in France. I the meantime he urges manufacturers to bear the need of the country doctor in mind in designing vehicles.

A soldiers' sanatorium at Santa Fe, N. M., f tubercular subjects, has been established at Fort Bayar by the United States Army Medical Corps. Dr. Dani M. Appel is in charge, with three nurses and thirtee assistants. Three of the barrack buildings and mo of the quarters for officers are in use. These buildin are of brick, have wide verandahs, a library and amusement room. There are accommodations for 1 patients and next year there will be room for 200. Eight hours daily out of doors is required from every patient.

IMPORTANT amendments to the lunacy laws of Maryland will be proposed by the Medical and Chirurgical Faculty at the next session of the legislature. At present, if a man has a small property, say $1000, he can not be committed as a pauper, although this would be quite insufficient to support his family and pay $7 a week for his own care. It is said that 1100 persons have been illegally committed to insane asylums in the state owing to legal defects. The proposed amendment is modeled after the New York law and provides for a certificate by physicians, which is then presented in court for approval.

THE FRENCH Red Cross Society is preparing an expedition for the Transvaal, with ambulance, field-hospital, etc., and the *Gaz. Med.* states that it is also trying to modify its charter or make other arrangements so as to send to a foreign country its five field-hospitals it already has in reserve for home needs. The French Society for Aid to Wounded Soldiers distributed nearly $24,000 during our war with Spain, and is now collecting funds for the Transvaal, preparing four field-hospitals, two for the British and two for the Boer wounded. The Russian Red Cross is also fitting out an expedition.

THE INDIA correspondent for the *Lancet* (November 11), writing from Calcutta, October 12, gives the total deaths from plague in India for the preceding week as 6727. Of these the Bombay presidency contributed 5812, the general mortality in Bombay city being 300 a week higher than it ought to be, and getting worse. The writer denies the report about the plague suddenly subsiding in Poona, the daily average of cases reported being about 20. There was some improvement in Calcutta, but the returns were 30 to 40 deaths a week. He says that inoculation is coming more into favor and several of the native papers in Bombay are endeavoring to induce their subscribers and the public to resort to this. Some 2000 have been inoculated in Hyderabad and large numbers in Nasik.

ABOUT a month ago the City Council of Americus, Ga., passed an ordinance requiring compulsory vaccination. On November 16, a woman of that city, who is also a "Christian Scientist," was brought before the mayor for refusing to be vaccinated, and he sentenced her to thirty days in the police barracks, but a suspension of sentence was asked for. On the 17th five other women were sentenced to fifteen days' confinement, at some place to be designated by the chief of police, and to pay a fine of $3 each. The same sentence is reserved to all members of that church who refuse to comply with the ordinance. A merchant there has also been sentenced to thirty days' imprisonment in the city hall, and to pay a fine of $15. Certioraris will be taken to the superior court and if necessary to the supreme court.

PROF. J. GEORGE ADAMI of Montreal will give a clinical lecture in the amphitheater of the Cook County Hospital, Chicago, on the morning of November 29, on goiter, including the relations between simple and exophthalmic goiter, the latter being mainly considered, and incidentally goiter with myxedema. In the evening of the same day, as previously mentioned in these columns, he will deliver the annual lecture of the Chicago Society of Internal Medicine, at a joint meeting of this Society and the Chicago Medical Society, in the hall of the latter. His subject will be "Latent Infection and Subinfection, with Reference more Especially to the Etiology of Pernicious Anemia." A dinner will be given at the Auditorium Hotel in honor of Dr. Adami, the following evening.

IN A recent sermon Bishop Fallows of Chicago made the following sensible remarks regarding one of the prevailing fads. "For every case of professed healing by 'Christian Science' Dowie can bring ten from his own experience as a faith healer. And yet Dowie calls 'Mother' Eddy by many naughty terms. And one can gather certificates from the daily papers, a hundred to one that 'Mother' Eddy and Dowie can produce, of the most extraordinary cures ever known. If now, my good friends are going to start or believe in a professed religious system because they have healed through the influence of a mental law which is as universal as gravitation, these people who have been cured by liver pills or cholera mixture have just as much reason to establish a religious cult of Christian Liver Pillists or Christian Cholera Mixturists as has 'Mother' Eddy to found a church of 'Christian Scientists.' 'By their fruits ye shall know them.' "

FOOD ADULTERATION.—The United States Senate Committee on Manufactures is still sitting in New York City, and giving hearings regarding adulteration of food and drink. (See JOURNAL, November 18, p. 1303.) George B. Sadler, editor of *Bonfort's Wine and Spirit Circular,* testified that, in his opinion, the government was defrauded annually of at least six million dollars in duties on spirits alone, in consequence of the protection afforded domestic spirits by a high duty, and the large quantity of spurious liquor sold in the bottles used for genuine imported liquor, but under fraudulent labels. Regarding beer, Dr. Francis Wyatt, consulting chemist to the National Brewing Academy, testified that unmalted cereals in beer did not detract from its quality. Dr. Edward H. Jenkins, of the Connecticut Agricultural Experiment Station, testified regarding food adulteration. He stated that while adulteration was practiced to an enormous extent, the proportion of harmful adulteration was comparatively small, and decidedly less than a few years ago. He exhibited to the Committee samples of coffee berries made of clay, spices made of prunestones and cocoa shells, mustard consisting chiefly of plaster of Paris, jellies made up of glucose and starch paste, with artificial coloring and flavoring, and so-called olive oil, about 95 per cent. of which was cottonseed oil.

NEW YORK'S DISPENSARY REGULATIONS.—The Committee of the State Board of Charities, appointed to formulate new regulations for the government and regulation of dispensaries, in accordance with the new dispensary law, has just submitted its report. A new dispensary applying for a license is required to satisfactorily answer a list of twenty questions designed to probe deeply into the financial responsibility of its promoters, the reasons for its establishment and the manner in which it is proposed to govern it. There are nine rules governing the dispensary after it has received its license. The first of these requires the posting of a notice, stating that the dispensary is organized for the free medical relief of the poor only, and calling attention to the penalty provided by law for those seeking such relief under false pretenses. The second rule provides for a new dispensary officer, to be called the "Registrar," who will keep the records and enforce the rules and regulations of the dispensary. Immediate treatment is to be given to emergency cases and to all persons evidently poor and needy, while in doubtful cases a first treatment may be given, pending an inquiry into their financial status, to be made by the dispensary officers or others as desired. The registrar must file an admission card for every applicant, and every pass-card must have printed on it the law regarding those who falsely claim to be proper subjects for dispensary relief. All apothecaries in dispensaries must be licensed under the laws of the state, or be graduates of a regularly incorporated medical college. All dispensaries are to be inspected at least once in three months by the local health board, at the written request of their managers. Seats must be provided for all applicants, the sexes must be kept separate, and a matron must look after the women and be present at gynecologic examinations.

Bubonic Plague in New York.—Bubonic plague was brought into New York Harbor, November 18, on the steamship *J. W. Taylor*. The ship left Santos, Brazil, October 24, sailing directly to New York. Robert Hope, the steward, had been in a hospital in Santos for a fortnight, suffering with what was supposed to be eczema. He returned to his ship when it was ready to sail, and was able to attend to his duties. After being on board for a week he was compelled to go to bed, and died in a few days. No physician was on board, but from the symptoms, which were carefully recorded, there is no doubt that his death was the result of the plague. The disease had been present in Santos for several weeks, and there is nothing strange about Hope having taken it. The day he died, the captain and the cook, both of whom had been taking care of the deceased steward, were taken down with the premonitory symptoms of the disease. On arriving in New York the two sick ones were sent to Swinburne Island. Every possible care was taken to prevent the possibility of the extension of the disease, and the ship and all its contents will be thoroughly disinfected, even burned if it is thought necessary. Latest reports are that the two sick are doing well. Dr. H. M. Biggs, of the bacteriological laboratory of the Health Department, made the following report on November 19: "The bacteriological examinations thus far made by Dr. Parke apparently show that the contents of the broken down buboes do not now contain any living germs. It is possible that some may develop later in the cultures. The microscopical examinations are also rather negative. These negative results are such as might be expected in plague at the stage of the disease presented in these men, and would be very unusual in other conditions. They, therefore, afford some confirmatory evidence as to the existence of plague."

Medical Side of the Transvaal War.—That the medical department of the British army will have much to contend with on account of the climate may not be appreciated in this country. While we are entering our winter season, they are approaching the summer, and the consequential hot period. From the *Lancet* of November 11 we gain much information in regard to the prevailing conditions from a climatic point of view. In the high country the days are very hot and the nights unusually cool. In Maritzburg, for example, the temperature reaches a maximum of 105 F., and has been recorded at 52.3 F., and this within twenty-four hours' time, while in winter it is often a maximum of 84 F., with a minimum of 33.8 F. Ladysmith, which is at an elevation of 3285 feet, is also subject to great variations, which renders the place unsalubrious at some seasons. In midsummer, or January, the heat there is at times intense. In Pretoria the variations are not so great, the maximum temperature in January reaching 90 F., while the coldest months, July and August, the temperature falls to a minimum of 30 F. The mean monthly temperatures in Pretoria are 72 and 77 F. in January, and 55 and 59 F. in August. In the low-lying coast towns and belt of alluvial plain, five and fifteen miles in extent, between the coast and the hills, the climate has the characters of a moist tropical one and is damp and enervating and hot. The rainfall reaches thirty inches annually, most of this occurring in the hot months, viz., October to April, the greatest fall being in December and January. The following precautions are required on account of the climate: 1, warm blankets and abdominal belts as protection against the diurnal variations of temperature; 2, waterproof sheets and cloaks as protection against heavy rains; 3, suitable head dress as protection against sun; and 4, warm clothing even in summer in the Drakensberg country. Among the prevailing diseases is enteric fever, which is very prevalent, especially in the high lands. It was epidemic in Utrecht during the Zulu war in 1879, at Newcastle after the Boer war, at Ladysmith and generally throughout these districts. Pietermaritzburg and other important towns in the present field of war suffer year after year, and since the reoccupation of Ladysmith in 1897 the garrison has suffered greatly. The first cases are likely to occur a few weeks after the onset of the rains, that is, in October. The streams and rivers are constantly being polluted by adjoining habitations, and also by the carcasses of dead animals. Dysentery and diarrhea are also diseases that are very common and are prevalent in the low-lying coast country, where they are said to have a malarial origin. They are also equally prevalent in the high lands, where they are induced by wettings, chills and exposure to fatigue. Malarial fevers are common in the low-lying coast country and are very prevalent also in the Tsetse fly district, viz., in the country between the Drakensberg and the coast north and south of Delagoa Bay. Parasitic diseases are common. Eating uncooked vegetables, watercress, salads, and insufficiently cooked liver, kidneys, etc., of infected animals, is therefore to be avoided. Ophthalmia is another disease that is prevalent in the Transvaal, but is similar to Egyptian ophthalmia. It occurs mostly during the dry months before the rains, often in epidemics as also does pneumonia. In the *British Medical Journal* of November 11 there is an editorial query as to how a fresh medical mobilization is to be effected, as more than 180 officers are now needed or employed in the field and the home establishment is already practically exhausted. The *Journal* assumes that all those liable to recall to service on the retired pay list will now be summoned, but will probably number less than 100, and not a few of these will be found unfit for foreign service on account of health. The *Journal* also says that the Red Cross Society seems to be taking matters in a somewhat leisurely fashion, and the writer awaits the solution of Great Britain's army medical problems with considerable uneasiness and misgiving, and thinks that the fact that their army medical establishments are undermanned is likely to end in very considerable difficulties. Mr. Frederick Treves, who sailed on November 11, took with him two nurses, one of whom has been his instrument nurse for some years. He also took his own surgical appliances, including special boxes of sterilized dressings, each box 7 by 5 by 1¼ inches, hermetically sealed, and containing a dozen sterilized artificial sponges, sterilized ligatures, and a tube containing absolute phenol. The box is opened by detaching a tin strip soldered around the lid, and the lid, when removed, forms an instrument tray.

When this tray is half filled with water the quantity of phenol in the tube is sufficient to make a carbolic solution of 1 in 20, and will be used for sterilizing. The *Lancet* of the same date says that the two hospital trains sanctioned will be increased if necessary, and the two sick transports, *Spartan* and *Trojan*, are to be used in conveying invalids from Durban to Capetown for transfer to the base hospital at Wynberg, but these latter may be diverted, if necessary, for the transport of sick from South Africa to England. The hospital-ship provided by the Central British Red Cross Committee will accommodate about 200 patients and is to be used exclusively for conveyance between South Africa and England.

Correspondence.

Vital Statistics in Indiana.

Bluffton, Ind., Nov. 14, 1899.

To the Editor:—I see by the Journal of November 4, under "Vital Statistics in Indiana" (p. 1173), that it is claimed the physicians of this state are fighting the Board of Health. Such a charge is unjust, and there is not a word of truth in it, but, on the contrary, the law passed in this state is considered by the physicians as being one of the best, if not the best, in the United States to-day. It is also claimed there are "elaborate blanks of births and deaths to fill out and this is made obligatory." This is not true; the "death blank" is filled out by the people where the death occurs, and it places all the work on the undertaker and not on the physician. As for births, etc., there is a very simple blank and just the same as has been used in this state for years.

It is also claimed that it is difficult to find competent physicians to act as "health officers." Such a claim is not worthy of publication and shows the writer knew nothing of the law he was writing about, for the law demands and defines the type of medical men who shall serve. None have resigned their positions but, on the contrary, the supply is greater than the demand. This law, it is true, causes the health officer to do work; he can not do as he did—just draw his salary each quarter. It makes reports accurate and will be a means of advancing medical science.

If the writer of the article in the Journal will read our law, no doubt he will change his opinion. We claim we have officers above the average in this state, and if you would visit us we could show you an organization in this county, for a sample, that would change your opinion, but because some "crank" officer or "medical man" objects to a law that advances science and is a vast blessing to our people it is no reason why untruthful statements should be made. We are aware of the fact that a few are fighting the Board of Health, but history teaches that most efforts to do good are fought. Personal attacks have been made against our most worthy secretary, but this is always the case. As for the charges made, I repeat, they are groundless and an insult to the State of Indiana, and being in a publication like the Journal makes it all the more serious. I have the first objection to hear in this state from the profession or any one else to our new law, and I am of the opinion that the article referred to is the production of some individual who allows his prejudice to get the best of his good sense. He had no authority to make the claim that it—the law—places the health officer in a very embarrassing position, for I can prove the officers of this state are not of that opinion, and if one of them has made that claim his ability is not that of an "officer," but a "kicker," and he ranks at the foot.

It will be a sad day in Indiana, for scientific medicine, when the profession antagonizes the Board of Health and such men as our secretary. I believe it is no more than proper that such groundless claims should be investigated and spoken of here.

Fraternally yours, Brose S. Horne, M.D.

[So far as we were in error in the editorial, we accept correction. We believed our information was reliable or it would not have been acted on. The Journal will, however, still maintain its position that uncompensated labor ought not to be demanded of the profession, and that reports of births should be paid for if required of physicians. The Journal made no charges against any health officer's ability or good intentions, and it, of course, fully recognizes the value of vital statistics.—Ed.]

Cause of Beriberi on American Whalers.

New York City, Oct. 25, 1899.

To the Editor:—The whaling bark, *Greyhound*, came into port at New Bedford, Mass., Nov. 4, 1897, with a tale of distress and death. Two of her crew had succumbed to beriberi, and the body of a third, who had died a few days before, was brought into port. There were also five men sick with the disease, in the forecastle. Although the *Greyhound* had been five years on the cruise, when she touched at St. Helena six months before, all the members of the crew were in good health. The men were not stricken with the disease until about a month before she reached port, while the bark was homeward bound. The third man died two days before reaching port. The captain's wife was on board and nursed the men. She and the captain were not sick. Although the *Greyhound* was well provisioned, she was short of vegetables, and the crew suffered.

The bark brought home 533 barrels of sperm oil, 6 of fat case oil, and 11 of blackfish-head oil. She had previously sent home, fifty-four months out from the home port, 1693 barrels of sperm oil, 232 of whale oil, 1601 pounds of bone, and 47 pounds of ambergris.

In reply to an inquiry of mine, as to what he thought to be the cause of the outbreak of beriberi, and whether in the rendering of the oil, charcoal had been used as fuel, Dr. Edwin E. Waite, the quarantine officer of New Bedford, said: "Charcoal is not used at all in rendering; the blubber is *tried out* by the burning of wood fuel. It is almost impossible to state the cause of the outbreak of beriberi on the *Greyhound*. She had not been in any port for five months until she arrived here. It might have been due to the herding together of a large body of men in a small ill-ventilated apartment with some local cause which it is impossible to state. We have a great deal of beriberi coming here."

My father, of Philadelphia, who was for many years engaged in the whale-oil and bone business, and whose commercial relations brought him in contact with such whaling merchants as Edward Mott Robinson and the Howlands of New Bedford, who practically controlled the entire whale-oil business of the country, tells me that there is no difference in the manner of rendering the various oils. In his traffic, buying and selling products of the whale, mackerel, cod and men-hadden oil fisheries, he frequently found "scurvy" aboard ships. This may have been the disease now called "beriberi." He often bought and sold old merchant ships, that had become too small for their own commercial requirements. They would be sent to him in ballast, to be fitted out as whalers. In fitting them out the main point kept in view was to get as much room as possible for storing the oil in barrels, and for rendering and coopering purposes, at the whaling grounds. If large crews were put aboard they were necessarily crowded, and while in the Arctic or Antarctic regions would stay most of the time below deck.

In my investigation of an outbreak of beriberi on the bark *Robert S. Patterson*, which came into port at Perth Amboy, N. J., in 1896, and which I reported in the *Medical Record*, at the time, I found that seventy-five Navassa (West Indian) negroes had been shut up for thirteen days in a room five feet high, 30 feet wide, and 50 feet long. Five men had died on the voyage. In a space therefore of 7500 cubic feet, 75, at any rate 70 men, lived hatched down, for thirteen days and nights, with the least possible ventilation. These negroes were passengers returning to the states from the phosphate mines. Their overcrowding caused the presence of an excess of carbonic acid gas. The crew was composed of eleven Europeans, not one of whom was attacked: they had plenty of fresh air. On whaling vessels, most of the men aboard have nothing, or very little, to do with sailing the ship: they are coopers or renderers who remain below deck. Long-continued overcrowding, and ill-ventilation of cramped quarters are probably the cause of outbreaks of beriberi on American whalers.

Albert S. Ashmead, M.D.

Phototherapy.

Fort Dodge, Iowa, Nov. 10, 1899.

To the Editor: In the Journal for October 21 (p. 1049), I note your comments on "Phototherapy." In the June number of the *Iowa Medical Journal,* I called attention to work done along this line by myself. This was some four months in advance of the publication of Finsen's paper quoted by you.

At the time of writing my paper I was limiting treatment to the use of rays concentrated by a twelve-inch condensing lens. The volume of sunlight thus utilized was found to be too small, and I have had constructed a metallic reflector that pours a volume of concentrated sunshine over the entire thorax and abdomen, which is as hot as the patient can bear. The heat rays are excluded as much as possible. This reflector is used in the same manner in which Archimedes is said to have fired the Roman ships.

In June I reported cases of lupus thus cured. Since then I have treated two cases of lupus in addition to those already reported, both of which were cured by a single treatment, each of about five minutes' duration. The bacilli are destroyed by the intensity of the light and the ulcer becomes a simple one and soon heals. Abrams of San Francisco has also reported cures of lupus by the use of a five-inch lens.

Besides the specific action of the light on the morbid process in the lung substance, no small amount of the benefit derived is believed to be through the blood which has passed in immediate contact with the strongly-condensed sunlight while circulating through the skin of the chest and abdomen. The patients, if not too far advanced, in the so-called third stage of tuberculosis, soon acquire better color, the cough disappears, the temperature declines, and in time reaches the normal, night sweats cease, râles disappear, and there is increase in the body weight.

The intense light concentrated by the twelve-inch lens I now use by moving the lens rapidly over the chest to prevent burning, and yet permitting of deep penetration of the actinic rays into the substance of the lungs. This is a sort of sun massage.

J. W. Kime, M.D.

Philadelphia.

Dr. John B. Deaver, who for several years has been a member of the surgical staff of the Philadelphia Hospital, has resigned.

Dr. S. Weir Mitchell will give two lectures to girls of the commercial and general courses of the high school, on "Conduct of Life."

Councils Committee has accepted the gift of a piece of property, from George Woodward, to be used for municipal hospital purposes.

A contingent bequest of several thousand dollars has been left the Presbyterian Hospital of this city, by Harriet Woodside, recently deceased.

Among other items of the city's expense for the current year is an allowance of $500,308 for 1899 and $586,168, for 1900, as necessary for the maintenance of the Philadelphia Hospital.

Through the contingent bequest of Mr. George W. Rexsamer, who died in this city recently, a sufficient sum of money has been left the Episcopal Hospital for the erection of a ward or building to be known as the Rexsamer ward or building.

The authorities of the Pennsylvania Hospital have acquired property near the corner of Spruce and Eighth streets, at an expense of $25,000, on which it proposes to build a house suitable for the ambulance service.

Officers of the Faculty Club, University of Pennsylvania, recently elected are: president, E. C. Kirk; vice-presidents, John Marshall, Josiah H. Penniman, Edwin G. Conklin; treasurer, Samuel S. Kneass; secretary, Edgar A. Singer, Jr.; governors, L. S. Rowe, A. C. Abbott and William C. Mikell.

The semi-annual smoker of the alumni of the University of Pennsylvania was held the evening of November 18. Addresses were made by different members of the faculty, outlining the method of teaching now in vogue at the university. Of those who spoke may be mentioned Drs. James Tyson, John H. Musser, J. William White, Simon Flexner, Alfred Stengel and John G. Clark.

In the case of the persons who were convicted of bribing an employee of the United States Government here recently (see last week's Journal, p. 1302), and who asked for a new trial on the ground that one of the jurors had at one time been an inmate of an insane asylum, Judge McPherson has overruled the motion for a new trial.

The number of deaths in the city for the week ending November 18, was 365, an increase of 51 over the previous week, and a decrease of 49 over that of last year. The principal causes were: apoplexy, 16; nephritis, 20; cancer, 18; cirrhosis of liver, 5; tuberculosis, 43; diabetes, 3; heart disease, 27; pneumonia, 38. Infectious diseases: diphtheria, 100 cases, 24 deaths; scarlet fever, 70 and 3 deaths; typhoid fever, 42 and 4 deaths.

U. S. Commissioner of Immigration Roberts has called attention to the necessity of having a careful examination of immigrants made at the different foreign ports. As is well known, contagious diseases frequently break out even after the vessel is on its way to this country. In his opinion this movement will have the co-operation of the steamship companies, who often sustain losses under the present management of affairs.

The Board of Education has taken matters in hand relative to the large number of cases of diphtheria which have been reported here during the last few weeks. It is proposed to empower the Committee on Elementary Schools to make arrangements with the faculties and trustees of the medical colleges and hospitals for the formation of a corps of physicians to daily visit the schools and make a medical inspection of such children as may show symptoms of illness.

Much good for the relief of the poor has resulted from the work of the Octavia Hill Association, an organization created for the purpose of assuming control of some of the smaller tenement houses for the laboring classes. While not renting them for less money than is asked by the landlords themselves, it is claimed that the exactions demanded before renting, such as cleanliness, and good sanitary surroundings are sufficient to keep the houses in demand. During the past year a dividend of 4.5 per cent. was declared, and the capital stock increased from $20,000 to $50,000.

New York City.

Dr. Pearce Bailey, the neurologist, was married on November 11 to Edith Lawrence, daughter of Mrs. Charles Newbold Black, Jobstown, N. J.

Dr. Louis Faugeres Bishop, secretary of the N. Y. Academy of Medicine, was married on November 14, to Charlotte Dater, daughter of Mrs. Siegfried Gruner, this city.

While Dr. Douglas Brown was taking a nap in his apartments on the first floor of No. 66 Madison Avenue, the other evening, a sneak-thief entered and stole money and valuable jewelry.

A longshoreman recently entered the Long Island College Hospital, with a small sore on his neck, which was found to be anthrax. He grew rapidly worse, and died. Three days before his admission he had been busy handling both leather and hay on the river front, making uncertain the source of infection.

The investigation into the charges made against the commander of the Sailors' Snug Harbor has not yet been completed, but much of the recent testimony appears to be favorable to him. Rear Admiral Philip, formerly in command of the *Texas,* testified warmly in behalf of Commander Delehanty, and many of the hospital inmates seemed favorably disposed toward him.

The New York Association for Improving the Condition o the Poor has issued its report for the year ending September 30. This shows that it has had over 8000 applications for relief, and has aided 6000 families with homes in obtaining food fuel, clothing, rent and transportation. It not only needs money to carry on this work, but cast-off clothing for men women and children.

In September, 1898, Fire Commissioner Scannell remove Dr. Francis M. Banta from his position as medical officer t the New York Fire Department, without giving reasons or making charges. Dr. Banta had been appointed to the position afte a competitive civil service examination, and he accordingl sued for reinstatement. A justice of the supreme court ha ust handed down a decision that Dr. Banta's dismissal was in iolation of law, and orders that the verdict be recorded and hat application be made to the special term for a peremptory nandamus.

FREE HOSPITAL TREATMENT.

The Hospital Saturday and Sunday Association held a meet-ng last Friday preparatory to their great annual collection. he sum realized last year was $70,000, but it is hoped that, wing to the increased general prosperity, the total this year nay reach $100,000. This Association now represents thirty-ight hospitals, and the money collected is distributed among hese hospitals on the basis of the number of days of free treat-nent given by each. Of the 34,740 patients cared for by these nstitutions last year, 21,052 were treated entirely gratis. he total number of free days was 730,606—indeed, the free atients aggregated as many days per capita as did the pay atients. The total cost of the hospital service was $1,653,-38.49 last year, of which $756,449.67 had to be derived from he benevolent public.

FAKE SCHOOL OF PHARMACY.

Through an advertisement in a New York newspaper under he title "Male Help Wanted" a fake school of pharmacy has een unearthed. Those who answered this advertisement were ssured that by the payment of a moderate tuition fee and some ork in the evenings, while pursuing other avocations during he day, it was possible for young men of ordinary intelligence nd education to pass the examinations of the Board of Phar-nacy, and become licensed pharmacists, thus commanding a alary of $12 to $15 a week. The enterprising head of this chool, "Professor Novarine" does not appear among the list f graduates from the New York College of Pharmacy, though e claims to be a member of the Alumni Association of that nstitution. He does not state how he proposes to get around hat provision of the law which requires at least four years f practical experience in a pharmacy.

RENOVATED BUTTER.

Although the local Deputy Commissioner of Agriculture sserts that very little "renovated" or so-called "process" utter is sold in the New York market, because of the rigid en-orcement of the law by his department, dealers in creamery utter just as positively declare that the law is constantly vio-ated. The latter estimate that about 10 per cent. of the 25,000,000 pounds of butter annually consumed in New York onsists of this "renovated butter." Butter of every grade of uality is received in groceries in the West, and is then packed nd shipped to the firms who make a business of renovating . The butter is melted and passed through sieves three times, ach time being subjected to aeration. It is then worked up ith fresh milk to give it a proper flavor. At this time it an not be distinguished from good creamery butter, but in a hort time it becomes rancid. This procss butter contains ess butter fat and more water than genuine creamery butter.

Chicago.

Dr. Cunera Scheffer has resigned from the staff of the unning hospital.

Dr. Gertrude G. Wellington has been elected president of he Medical Women's Club, vice Dr. Jennie E. Smith, resigned.

The Health Department has added measles and whooping-ough to the class of diseases which must be reported by attend-g physicians.

No action has been taken by the Cook County Commissioners oward an investigation into the management of the County ospital, as advocated by some of the newspapers.

Dr. John G. Byrne late first lieutenant and assistant-sur-eon, Second Regiment Illinois Volunteers, during the Spanish-merican War, has again accpted a medical appointment in e army. He was assigned to the Forty-First Infantry, and iled with that regiment, November 20.

A bazaar will be held December 7 to 9, by the women of the ethodist Churches, to raise $25,000 for furnishing the new esley Hospital. When completed the institution will be con-ucted in conjunction with the medical school of North-estern University, which stands on adjacent lots.

The new building of the Englewood Union Hospital was for ally opened November 17. The hospital is devoted to emer-ncy cases and was started five years ago with a capacity of ly two beds, which has been increased to forty-nine. The institution is supported almost entirely by donations from the people of Englewood.

A 14-year-old child committed suicide by drinking carbolic acid purchased from a neighboring druggist. The coroner's jury rendered a self-evident verdict of suicide with the following recommendation: "From the evidence submitted we recommend that the law in regard to the selling of poisons be more rigidly enforced."

Dr. F.E. Wynekoop of the Health Department, whose investigations into the etiology of influenza have attracted favorable comment, has succeeded in isolating the bacilius of Pfeiffer in cass examined for diphtheria, with increasing frequency during the past few weeks. This is regarded as an indication of an impending epidemic of la grippe.

Complaints have been made to the health and police departments against the wholesale distribution of samples of quack remedies for advertising purposes. It is alleged that several children have been made seriously ill by eating samples of this character. Both departments have declined to interfere on the ground that there is no ordinance in force by which the practice can be stopped.

In compliance with the recent order of the city council authorizing the employment by the Health Department of additional inspectors and fumigators, the following physicians have been appointed inspectors: George E. Krieger, Lee H. Mettler, Frank S. Churchill, Harry M. Richter, Fred A. Besley and W. W. Kimmett. The following will serve as fumigators: Joseph H. Garrity, J. A. McKinley, Albert M. Richardson, W. T. Dowdall and Charles H. Perigo.

The Illinois Society for the Prevention of Consumption contemplates an active campaign during the winter. Legislative aid will be asked and the Society will favor the establishment of a state institution for the care of these patients, as is advocated by the Illinois State Board of Health, to which the matter was referred by the last legislature, as previously mentioned in the Journal. The Society will urge that a milk inspection department be added to the health office, for the examination of all milk brought to the city.

A woman now lies at the point of death through the alleged carelessness of a midwife who left several unlabeled bottles after a visit. The patient's husband administered carbolic acid instead of liniment, and as a result she received such severe burns as to render her recovery improbable.

HEALTH OF THE CITY.

There has been no material change in the situation as noted last week. According to the weekly bulletin of the Health Department, there has been little abatement of the mortality from diphtheria and scarlet fever, the deaths from the former being the same as for the previous week, and while there were two less deaths from scarlet fever last week than the week previous, there were twelve in excess of the corresponding week of last year. This stationary mortality is regarded by the Department as due to the unusually mild weather, which favors ventilation by allowing windows and doors to be kept open. There has been no decrease in the number of new cases and an increase is feared on the advent of cold weather. There were twenty-eight deaths from "impure water diseases." The bulletin states that "this decrease is regarded by the Department to be due to the cessation of open lake dumping and the prohibition of dredging in the foul waters around the mouth of the river. The result is believed to fully warrant a continuance of this prohibition until the drainage canal is in operation."

St. Louis.

Dr. H. Tuholske, who went abroad during the past summer in search of health, has not yet returned.

DINNER TO THE "OLD GUARD."

At a recent largely attended meeting of the medical profession of St. Louis, a committee was appointed to provide for a dinner to be given before the close of the century to the members of the "old guard" of the medical profession in St. Louis and the State of Missouri. The particular members referred to in St. Louis are Drs. E. H. Gregory, John B. Johnson, Wm. M. McPheeters, Simon Pollack, Wm. Johnston and Thos. O'Reilly. These six are all that are left of the pioneers of the medical profession here. All have been in the harness, actively engaged in practicing medicine for sixty years or more, and living in

St. Louis more than fifty years, and the medical profession looks forward to the occasion referred to with great interest.

TRIBUTE TO DR. MUDD.

At a largely attended meeting of the St. Louis Medical Society and general profession, held the evening of November 21, the following tribute was paid to Dr. Henry Hodgen Mudd, whose death is noticed in "Deaths and Obituaries," on another page:

The St. Louis Medical Society and the profession at large are again called on to mourn the death of one of its most distinguished and honored members, in the person of Dr. Henry Hodgen Mudd, which sad event occurred at his home in this city, on the 20th inst., in the 56th year of his age.

In the death of Dr. Mudd the medical profession suffers the severest loss it has sustained in years. He was one who united in himself many sterling virtues—rare talents in his chosen profession. He had attained to an eminence reserved to but few. As a man he impressed all who approached him, by his force of character, fearlessness and devotion to the loftiest ideals. His death was largely due to his continuing at his post of duty after his waning physical strength had warned him of approaching danger, so that we may say that he died a martyr to his ideals and to his work. Even more than most physicians, did Dr. Mudd have the power without any conscious effort on his part of winning the esteem and affection of his patients.

Few men have been more loved. It is difficult among so many virtues and excellencies to select a few for mention, but if any can be especially singled out they are his indefatigable industry and his honesty of purpose, which knew neither fear, favor nor compromise. The younger members of the profession lose in him an ever ready friend and helper, the older a loyal confrère more ready to cover the faults of others than his own.

Wm. M. McPheeters,
J. M. Scott,
J. B. Shapleigh,
Joseph Grindon,
Committee.

Baltimore.

Assistant Surgeon Percival S. Rossiter, U. S. A., is visiting his father, Rev. Dr. Rossiter, preparatory to leaving for the Philippines, whither he has been ordered.

Dr. George W. Dobbin for the past five years resident obstetrician at the Johns Hopkins Hospital, has resigned, to begin private practice.

The Salisbury Sanitarium (N.C.) was opened October 25, under the care and management of Dr. J. Ernest Stokes, who has been Dr. Kelly's assistant at the Johns Hopkins Hospital.

Dr. Guy L. Hunner of the gynecologic staff of the same hospital, has been granted a four-months leave of absence to travel in Europe. Dr. Dabney was appointed to fill the position temporarily.

Announcement is made that the *Journal of Eye, Ear* and *Throat Diseases*, published by the medical staff of the Presbyterian Eye, Ear and Throat Charity Hospital, will hereafter appear as a bi-monthly instead of quarterly as heretofore.

The sons of the late Dr. James M. Morrison, who died from the effects of injuries received from robbers (see p. 1375), have offered a reward of $500 for the arrest and conviction of his assailants. Dr. Morrison was said to be the master of twenty-five languages.

The improvements at the Presbyterian Eye, Ear and Throat Hospital have been completed. A two-story dispensary has been erected in the rear. The old dispensary has been turned into wards, which have been furnished by Mrs. Joseph Rieman, in memory of her late husband.

It is proposed to consolidate the medical societies of Baltimore as sections of the Medical and Chirurgical Faculty of Maryland. Another proposition is to unite the county medical societies under this parent society, each paying a small membership fee. Should these plans mature, they would give a very strong organically united profession in Maryland, and would vastly increase the influence and usefulness of the Maryland profession. There is a good prospect of this plan being realized as it is favored by leaders in the profession.

Washington, D. C.

The report of the health officer for the week ended November 11 shows the total number of deaths to have been 117, 69 white and 48 colored. There were 82 cases of diphtheria, 70 of scarlet fever and 5 of smallpox under treatment at the clos of the week.

Dr. Arthur M. McNamee has been appointed residen physician at the Georgetown University Hospital, to succee Dr. Daniel McCarthy, who resigned to accept the position o resident physician to the Providence Hospital.

At the recent meeting of the directors of the Central Dispensary and Emergency Hospital, the following report wa received from the staff, for the month: new cases, 980; number of visits, 1531; number in wards, 78; deaths, 9; autopsies 5; prescriptions compounded, 2938; ambulance calls, 87.

Canada.

(From Our Regular Correspondent.)

Toronto, Nov. 18, 1899.

Dr. T. M. Rotch, Boston, read a paper on "Infant Feeding," before the Toronto Medical Society, November 16.

The deaths in Ontario from contagious diseases, in October are as follows: scarlet fever, 7; diphtheria, 31; measles, 4 whooping-cough, 7; typhoid, 75; consumption, 179. The tota from all causes numbered 1915.

Diphtheria has been more prevalent than usual this autum in Montreal, there being eight deaths reported in one week Of typhoid fever, there has not been so many.

The people of London are justly proud of the hospital opened November 16—Victoria Hospital, erected at a cost o $100,000. It occupies a complete block of the city and is collection of pavilions, including one for an isolation hospita as well. The style of architecture is colonial. One specia feature of the new hospital is the sun-rooms. The hospital itself is situated on a very high bank of the River Thames, an rolling away to the southward is a valley of undulating farm lands. The administration building is placed in the cente and is directly connected with a residence for the nurses.

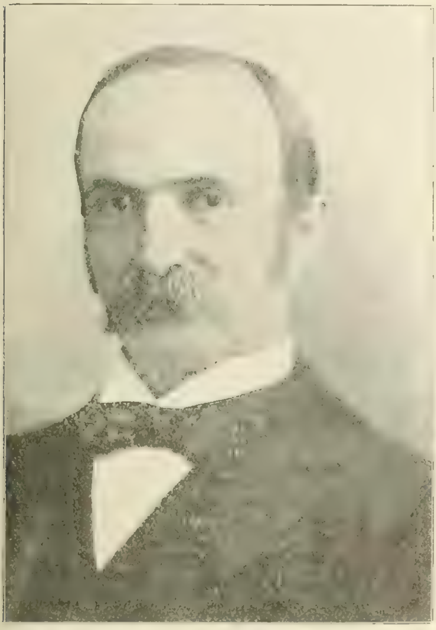
SMALLPOX OUTBREAK IN ESSEX COUNTY.

At the quarterly meeting of the Provincial Board of Health which met on the 17th and 18th, a letter was presented from the special officer of the Board at the seat of the outbreak—Dr. Hodgetts. He reported that matters were in a very seriou condition in the county and that the disease had reached suc proportions that, on account of the intimate railway connection with Toronto, Detroit and Buffalo, those cities coul hardly escape from infection. So far the cases number 45 divided amongst the municipalities as follows: Tilbury West 12 cases in five houses; Maidstone, 6 in two houses; Bell River, 1 case; Rochester, 19 in nine houses, and Tilbury North 7 in three houses. The report stated that the local municipa authorities are rendering the inspector every assistance. Vaccination is proceeding rapidly. The disease is considered t be of a mild character. The committee advised that a circular be sent out to physicians setting forth the general symptoms and signs of the disease.

Deaths and Obituaries.

DEATH OF DR. H. H. MUDD.

Henry Hodgen Mudd, M.D., a leading surgeon of St. Loui Mo., died November 20, having returned but a few days befor from a trip to Europe, where he had been in search of healt A few months ago, following an attack of la grippe and a prolonged period of hard work, Dr. Mudd developed evidences serious heart lesion, together with some of the symptoms Bright's disease. By his physicians he was advised to go Europe, to secure a long period of rest and incidentally recei the benefit of the "Schott" treatment for heart trouble. Th result was in every way unsatisfactory; he grew progressive worse and very nearly failed to reach home alive. Dr. Mu was born in Pittsfield, Ill., April 27, 1844. He was a son of th Hon. Henry T. Mudd and Elizabeth Hodgen Mudd, and h lived in St. Louis for more than forty years. He was a graduate of the literary and medical department of the Washingt University of St. Louis, and also a city hospital graduate. the beginning of his professional career he became associat with his uncle, the late Dr. John T. Hodgen, remaining wi him as partner until the death of Dr. Hodgen and inheriti his enormous practice. From the beginning he has been teacher in the medical department of Washington Universi for twenty years or more professor of anatomy and special surgery, and for ten years dean of the college. One of the latest services that he rendered to higher medical education in St. Louis was to secure the consolidation of the two oldest medical colleges, the Missouri or McDowell Medical College and the St. Louis Medical College (Medical Department of Washington University). Dr. Mudd was a member of the AMERICAN MEDICAL ASSOCIATION, and served some years ago as president of the surgical section; he was also a member of the American Surgical and the Southern Surgical associations, and of the St. Louis and Missouri Medical societies. He had been delegated the honor of delivering the address in surgery at the recent meeting of the Mississippi Valley Medical Association held in Chicago, but in consequence of his ill-health and absence he resigned. The Doctor was a contributor to the literature of the profession, and his papers all bore the mark of careful preparation and conscientious work. Indeed, the predominating feature of his character was conscientiousness—loyal devotion to duty. The writer has known him since early boyhood, and he was one of those rare men who from childhood are looked up to and leaned upon by all the members of the family, young and old alike. This earnest disposition to do his duty and serve others made him a burden-bearer from the beginning of his life. It will never be known how many of the cares and sorrows of others he carried and relieved—how many dependents there were on his bounty, and in his gentle, faithful, loyal way he preserved intact all knowledge of the fact of his services to others. To the superficial observer, Dr. Mudd might at times have appeared cold, and yet those who knew him well know that he had a warm, gentle and tender heart, sympathetic almost as a woman. No man in the profession of medicine and surgery in St. Louis ever worked more slavishly for his patients, unless it were his former associate and professor, Dr. John T. Hodgen, and they both died in the harness, largely the result of overwork, at very nearly the same age. Dr. Mudd was an exceptionally good business man in addition to his being an able and successful physician; had he chosen commercial pursuits, there can be no question that he would have been eminently successful: the chances are that he would long ago have achieved that place in the business world which would have enabled him to take life easy, and thus have lived to the prolonged age of his father, who at 83 still lives. The family and friends of Dr. Mudd can felicitate themselves, however, that though his life was relatively short, the amount of work that he accomplished, and the amount of good that he did, represented far more than the average life of four-score years. (See also St. Louis items, Correspondence columns.)



DR. HENRY H. MUDD.

DANIEL WEBSTER PRENTISS, M.D., Washington, D.C., died at his home, November 20. He was born in Washington, in 1843, and was graduated as Bachelor of Philosophy from Columbian College (D.C.), at the age of 18, and three years later received the honorary degree of Master of Arts. He was graduated from the medical department of the University of Pennsylvania in 1863. From 1861 to 1863 he was medical assistant to the surgeon in charge of the Quartermaster's Hospital at Washington, and was acting assistant-surgeon, U. S. A., from 1864 to 1865, on duty in general hospitals in and around Washington. He was a mmber of the Board of Health in 1865, and he took great interest in scientific matters and spent much time in investigations at the Smithsonian Institution. He was the author of various scientific works, and for many years he was a member of the AMERICAN MEDICAL ASSOCIATION, and president of the District of Columbia Medical Society at the time of his death.

JAMES M. MORRISON, M.D., Baltimore, University of Maryland, 1859, aged 62 years, died in that city November 13, as a result of injuries received from robbers who had entered his premises. He was a native Marylander, and at the beginning of the Civil War received a surgeon's appointment from President Lincoln and was commissioned in the Fourth Pennsylvania Cavalry to be afterward transferred to the Forty-eighth Pennsylvania Infantry. Soon after the cessation of hostilities he was again commissioned, this time in the regular army, and went west with General Custer, serving until that general's death. He then resigned for the purpose of settling in Baltimore, to practice his profession.

ISAAC J. MARTIN, M.D., died at Elliott City, Md., November 16, aged 40. Although a graduate of medicine he never practiced, being engaged in pharmacy.

HUGO KLAMER, M.D., N. Y. University, 1894, died in New York City, November 16, aged 40 years.

DAYTON WYCKOFF SEARLE, M.D., College of Physicians and Surgeons, N. Y., died in New York City, November 15, aged 62 years.

MATTHEW JOSEPH SMITH, M.D., College of Physicians and Surgeons, N. Y., 1890, died at his home in Jersey City, N. J., November 16.

DILWYN P. PANCOAST, M.D., Mullica Hill, N. J., died in Camden, N. J., November 4, aged 63 years. He was a medical graduate of the University of Pennsylvania, 1856, and served in the Union army from 1863 until the close of the war.

AMBROSE L. FULTON, M.D., died at his home in Astoria, Ore., November 11, from Bright's disease, following la grippe. He was born in Ohio, in 1851.

M. A. MCLAUGHLIN, M.D., one of the early settlers of San Francisco, Cal., died there November 20. He was born in Ireland, sixty-five years ago. At the breaking out of the Civil War he raised a company of cavalry, was appointed its captain, and served throughout the entire war. After being mustered out he returned to San Francisco and later graduated from Toland Medical College.

HOWARD M. MCFALL, M.D., Mattoon, Ill., died at Galena, Kan., November 10, aged 39 years. He was a graduate of Rush Medical College, Class of 1882, and at the time of his death was surgeon of the Second Illinois U. R. K. of P.

DEATHS ABROAD.

K. STRAUB, Munich, a young physician whose extensive research on the blood-vessels in progressive paralysis has been attracting attention recently and was expected to open new horizons for therapeutics when the complete report was published, is dead. The constant working in formaldhyde affected his lungs and opened the gate for infection.

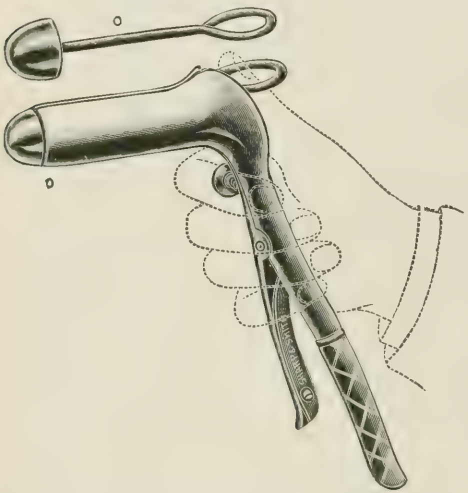
DR. ENNIS, Grand River, Gaspe County, Quebec, died last week after a ten days' illness from paralysis. He was 55 years of age and was a graduate of Laval University.

New Instrument.

A BIVALVE SPECULUM WITH AN OBTURATOR.

BY J. RAWSON PENNINGTON, M.D.
CHICAGO.

This cut represents the author's bivalve speculum, grasped with the full hand ready for introduction. "O" is the obturator. It is a bivalve and tubular speculum combined, embodying the properties and applications of each. When it is introduced and the obturator is removed, a portion of the rectum equal to the area of the circumference of the instrument is at once painlessly exposed for inspection, and by slightly opening the blades this field is greatly enlarged. It being a tubular instrument, by placing the patient in the knee-chest posture, you can inspect the entire rectum, semilunar valves and sometimes part of the sigmoid flexure.



Miscellany.

Elimination of Mercury in Milk.—Seven women who were taking large quantities of mercury in frictions or hypodermically, and nursing children, were tested, and in none could any trace of the mercury be discovered in the milk. The report, *La Pediatria* No. 9, concludes that we must abandon the expectation of treating heredo-syphilitic infants effectively by administering mercury to the mothers.

Surgical Intervention in Medical Nephritis.—Pousson (French Cong. of Urology) has collected twenty-four cases of nephritis complicated with serious accidents, treated surgically, with two deaths. Nephrotomy relieves the tension and congestion in these cases and regulates the circulation, restoring the kidney to its normal function, with disappearance of the albumin, and normal elimination of urea and other excremental substances. The prompt subsidence of the reno-renal reflex on the other kidney attests the efficacy of the nephrotomy. Nephrotomy is also effective in the same way as enucleation in sympathetic ophthalmia.

Long Vitality of the Gonococcus.—Before the German Congress of Physicians and Naturalists, Wertheim reported that cultures of the gonococcus had retained their vitality eight to ten months, when cultures could still be made from them, although no typical gonococci were to be distinguished by this time, nothing but "involution forms." He consequently aserts that there are actually living "involution forms" of the gonococcus which it is impossible to recognize with the microscope as gonococci, a statement which undermines the foundation of our present methods of treatment. He also found that the gonococcus was not destroyed by a temperature of 38 to 42 C., and hence the assumption that it is destroyed by the occurrence of fever is untenable.

The Medical Expert Problem.—At a November meeting of the Society of Medical Jurisprudence, held in the New York Academy of Medicine, Dr. Hugh Hamilton, Harrisburg, Pa., read a paper on the "Medical Autopsy." He animadverted upon the unsatisfactory system of necropsies, especially where there are legal issues, because of their being made at varying periods after death and in a slipshod manner. According to him the examinations should be made as quickly after death as possible, in order to combat even fractional doubts of criminality. That the microscope should occupy its proper field along with the other accepted tests, Dr. Hamilton maintained with emphasis. Add to this procedure, as he said, substantially an expert in the employ of the commonwealth, for the purpose of presenting the facts without bias and reserve, the commentary of motives and probabilities, to the lawyer, and then the truth would be much more likely to prevail than at present. He cited instances where the testimony at present in vogue had been torn in pieces by opposing counsel, and the experts were made ridiculous in the eyes of the public on confessedly debatable grounds. All agree that most of the parties who have been made to figure in these medicolegal affairs leave the arena with vague conclusions in which both judge and jury participate. Thus the state pays for what it does not get—information. This subject was also comprehensively discussed before the New York State Medical Association (Journal, November 4, p. 1165), with the presentation of views by the Hon. Willard Bartlett and the Hon. Joseph F. Daly, both supreme court judges, Charlton T. Lewis and Wm. A. Purrington, Dr. Pheron A. Wales of Elmira, N.Y., and other physicians who discoursed on the theme, which might have been indefinitely prolonged but for the crowded program. The prevailing sense of the meeting was that the remedy lay with the physicians themselves, but may not the evil be succinctly stated thus, that the employed expert may be apt to state only what was of sole value to his own client? At all events, the whole matter seems now to be fully before the committee and the conviction is rife that the mills of the gods are yet grinding slowly.

Piperazin in the Cure of Gouty Tophi.—C. Gioffredi calls attention to the important therapeutic aid of local injections of piperazin in case of the gouty deposits which sometimes compromise the functions of a joint. His communication (*Gaz. degli Ospedale*, xx, 100) states that its great dissolving power in respect to uric acid and the urates—superior to any other of the alkaline substances used in therapeutics—renders its local application rational as suggested by Biesenthal and Schmidt as long ago as 1892, and his success in a case he reports, confirms this assumption: a man of 36 with typical gouty arthritis and a tophus in the serous tendon sheath o the peroneus longus. Internal treatment—one gram a day— almost entirely cured all the symptoms except those connecte with the tophus, which was very painful. After experiment on animals Gioffredi injected 5 cg. (5/6 gr. of piperazin i .5 c.c.—⅛ minims) of water, directly into the tophus, followe two days later by another injection on the other side of th deposit. The first was followed by quite severe burning pain at once relieved by application of ice, and all pain was prevented in the later injections by a preliminary ether spray All trace of a calcareous deposit had vanished by the tent injection, and all swelling a few days later. He believes tha the same procedure would not be dangerous and might be foun useful in cases of uric concretions in the articulations, usin extremely weak solutions, with every antiseptic precautio especially when all other therapeutic measures have failed t relieve.

Queries and Minor Notes.

INFORMATION WANTED.

Olympia, Wash., Nov. 7, 1899.

To the Editor: Will you kindly inform me where I may obta the February, 1899, issue of *Archives of Neurology and Psych pathology!* Also advise me of a good progressive journal microscopy, bacteriology, pathology, etc.

Very truly, H. S. W.

Answer: The *Archives of Neurology and Psychopathology* c be obtained by addressing its Business Manager, State Hospit

Utica, N. Y. We do not feel quite sure just what kind of a journal is desired from the second question, but suggest that some such a one as the *Journal of Experimental Medicine*, published by D. Appleton & Co., New York, may possibly meet the requirements. There is no journal in this country, so far as known, that is especially devoted to these three specialties.

New Washington, Ohio, Nov. 11, 1899.

To the Editor:—Please inform me on the following questions: 1. What is the best foreign German medical journal, price, and where can it be obtained? 2. Is the correspondence course of the Chicago School of Psychology what it is represented to be?

Yours truly, A. E. L.

Answers:—1. We would recommend as a good German journal covering the general field of medicine one of the great weeklies, such as the *Deutsche Medicinische Wochenschrift*, or the *Berliner Klinische Wochenschrift*. Their home price is about 24 marks—$6—a year, but would be somewhat more here. They can be obtained through any dealer in German or foreign works in any of our large cities. 2. We have no personal knowledge of the institution, which appears to be a correspondence school. On general principles we should hesitate to very highly recommend any such in any department of medicine.

The Public Service.

REPORT OF THE SURGEON-GENERAL OF THE ARMY.

Surgeon-General Sternberg's report opens with a tabulated statement of the financial transactions of the fiscal year. The money available for the use of the Army Medical Department was derived from appropriations by Congress and allotments by the President from the appropriations for national defense, Act of March 9, 1898. The appropriations by Congress amounted to $2,765,000. It is estimated that $500,000 of this sum will be returned to the Treasury. The allotment by the President amounted to $1,500,000, of which about $72,000 remained unexpended, June 30, 1899. The expenditures covered the expenses of medical supply depots, the purchase of medical supplies, medical attendance and medicines, pay of nurses and other employees at hospitals, laundrywork and the medical expenses of recruiting and mustering out.

ARMY MEDICAL MUSEUM.

The total number of specimens in the museum at the end of the fiscal year, June 30, 1899, was 35,039. Added during the year were 303, and discarded, transferred, etc., 289.

LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

An addition of 3934 volumes and 7737 pamphlets during the year raised the total number of volumes in the library to 131,872, and the number of pamphlets and medical theses to 224,369.

Volume iv, second series of the "Index Catalogue," includes the letter "D" and the letter "E" to "Emulsions," and forms a volume of 917 pages, which will be ready for distribution at the usual time. The manuscript of Volume v, second series, is in course of preparation for the printer.

MEDICAL OFFICERS.

The number of medical officers in the regular army (192) was barely sufficient for the needs of the service in time of peace, when the enlisted strength of the army was limited to 25,000 men. The enlarged army now in service, and the large number of new posts which have been established upon the seaboard of the United States and in Cuba and Porto Rico have made necessary a very considerable increase in the Medical Department. It has, therefore, been necessary to employ a large number of contract doctors or acting assistant-surgeons, who are appointed by the Surgeon-General, as their services are required, upon presenting satisfactory evidence of their professional qualifications and character. The number of applications for these appointments has been greatly in excess of the requirements of the service. These selected have, as a rule, proved to be competent as physicians and surgeons and zealous in the performance of their duties. During the year 140 medical officers of volunteers were appointed by the President, 11 as lieutenant-colonels, and 129 as majors. Forty-five of the appointees were from the regular army and 95 from civil life. At the end of the year there remained in service 34 majors and surgeons, 12 of whom were captains in the regular establishment.

CONTRACT SURGEONS.

On July 1, 1898, 156 contract surgeons were on duty and 784 contracts were made during the year, making a total of 940. Of this total 546 contracts were annulled during the year, and 9 contract surgeons died while in service, leaving 385 under contract on July 1, 1899.

THE ARMY MEDICAL SCHOOL.

This school was closed during the school year, 1898-99, as the important duties imposed on medical officers by the existing war conditions made it impracticable to carry out the usual school program.

THE HOSPITAL CORPS.

After the declaration of war with Spain the increase of the regular army and of volunteer troops necessitated a corresponding increase of the hospital corps. To hasten this increase, authority was given to transfer men from the volunteer regiments. By June 30, 1898, the corps had increased, mostly by transfers, to 3245, including stewards, acting stewards and privates. Nov. 30, 1898, it attained a maximum strength of 6588, after which it became reduced to 3368, mainly by the discharge of men enlisted for the war only. The total gain during the fiscal year was 6185 men, 3465 by enlistment and 2720 by transfer; the loss, 6062, of whom 5086 were discharged by order and only 201 by expiration of term; 101 died by disease, 4 were killed in action, 6 died of wounds, and 158 were discharged for disability.

Systematic teaching in the Hospital-Corps School of Instruction, at Washington Barracks, D. C., was practically suspended during the war. Recruits and transferred men received practical training at the general hospitals. Since the return of more settled conditions, systematic instruction at the school has been resumed. A similar school has been organized at Angel Island, Cal., with a view to give as much instruction as possible to hospital-corps men collected there for transportation to the Philippines. Special attention is given in the school course to the preparation of food for the sick.

CONTRACT FEMALE NURSES.

The first contracts with trained female nurses were made as early as May 10, 1898. During June, 21 women were on duty in the wards of general hospitals and on the hospital ship *Relief*. In July nurses immune to yellow fever were sent to hospitals in Santiago Province, Cuba, and during the prevalence of typhoid fever in our camps trained nurses were placed on duty, not only in the general hospitals, but in many division and post hospitals, and even in some regimental hospitals. The number of nurses under contract reached a maximum of about 1200 in September, 1898. The number in service July 1, 1899, was 202. In all, 1563 women have been under contract between May 10, 1898, and July 1, 1899.

HOSPITALS.

New post hospitals were completed during the year at Fort Hancock, N. J., Fort Snelling, Minn., Fort Point, Tex., Fort Morgan, Ala., and Tybee Island, Ga., and temporary hospitals at Fort Williams, Me., Fort Greble, R. I., Fort Mott, N. J., Morrowstone Point and Battery Point, Del., Fort Caswell, N. C., and Egmont Key, Fla. Additional wards were provided for the hospitals at Fort Thomas, Ky., and Fort Wayne, Mich., and new hospitals were authorized for Fort Slocum, N. Y., Plum Island, N. Y., and the new post near Seattle, Wash. General hospitals, each with a capacity of 1000 beds, were completed at Fortress Monroe, Va., and Savannah, Ga., and pavilion wards were erected in connection with the post hospitals at Washington Barracks, D. C., Jefferson Barracks, Mo., Fort Columbus, Fort Hamilton and Fort Wadsworth, N. Y. Various repairs and improvements were made to hospitals and quarters at a number of posts.

In addition to those mentioned, general hospitals have been organized at San Juan, Porto Rico, and at Havana, Pinar del Rio, Matanzas and Santiago, Cuba, and in both islands hospitals have been constructed or improved at the many military posts that have been established. In Manila four hospitals have been outfitted, and at San Francisco a general hospital has been established for the care of the sick among commands going to or returning from the Philippines.

HOSPITAL SHIPS.

The *Relief* and the *Missouri* have done excellent work between this country and Cuba and the Philippines. The *Aid*, formerly the *Bay State*, and the transport *Terry* proved unsuited for hospital purposes.

MEDICAL AND HOSPITAL SUPPLIES.

The operations of the supply department, which for some months were necessarily conducted under the pressure of the emergencies of the war, have gradually been brought into more regular and methodical action.

The regular medical supply depots at New York, St. Louis and San Francisco have been kept up. That at New York has supplied the troops in the northern and eastern portions of the United States, and also in Cuba and Porto Rico. Increased facilities were required to properly conduct the business of this depot, and a special building was hired for the purpose, to the great advantage of the Government. The depot in St. Louis has supplied the troops and garrisons in camps in the Mississippi Valley and portions of the country most convenient to it. Medical supplies for the Philippine Islands, with the exception of the large amount that was sent on the hospital ship *Relief*, which left New York March 2, 1899, have been furnished from the San Francisco depot. Medicines and most of these supplies were purchased on the Pacific coast, only articles of exclusively eastern manufacture being sent from New York and St. Louis. The uniform report from the Philippine Islands has been that medical supplies have been ample.

It has been my endeavor that the sick and wounded of our army should be supplied with every comfort and restorative, and the surgeons with every appliance that modern science would suggest in the treatment of disease and injury. Not only have supplies of all kinds allowed by the Standard Supply Table been freely used, but the individual preferences of surgeons have been indulged where there was reason to believe that benefit to the sick would arise from so doing.

RECRUITING.

The total number of men examined for enlistment during the calendar year 1898 was 71,250, white 66,237, colored 5013. The number accepted was 54,896, or 770.47 of every thousand examined. The ratio of accepted men was 770.79 for the white, and 766.21 for the colored. White men to the number of 22.74 and colored men to that of 16.75 per thousand declined enlistment. The rate of rejections on primary examination was 206.47 among the white and among the colored candidates 217.04, giving a mean of 207.21.

Among the recruits who fill up the ranks of our regular army there is usually a considerable number of men who are not native born. A few years ago Irish and German recruits constituted one-fifth of the total number accepted, or 200 of every thousand men. Recently the proportion of foreign born has been decreasing. In 1895 the ratio for each of these two classes of foreign-born recruits fell for the first time below 90 per thousand. In 1897 Germany furnished 74.53 and Ireland 74.30. During the past year, as a result of the military spirit pervading the country, the ratio of native born rose to 770.47 per thousand, while the proportion of naturalized citizens of German and Irish birth fell, respectively, to 47.98 and 34.74 per thousand.

HEALTH OF THE ARMY.

On account of the failure of some of the regimental surgeons while in Cuba to furnish reports for July and August, or to keep accurate and complete records of their sick for these months many of the lighter cases treated in quarters until return to duty have necessarily been lost to the record, but the medical histories of the seriously sick whose cases failed to be entered on the regimental reports were found in the records of the general hospitals in which they were afterward treated. A very fair representation of the sickness of the regular regiments has thus been gathered for tabulation in this report.

For pension purposes these medical records of the regular troops for the past calendar year are in excellent condition. Each entry on the various reports, regimental, field-hospital, transport, hospital-ship and general hospital has been carded, and the various cards relating to each individual have been brought together to show his medical history so far as reported by the medical officers who had charge of his case. To cover the medical history of the year over

100,000 histories had to be carded and are now arranged alphabetically in the files for ready reference.

I regret that I am unable to present a similar view of the statistics of the volunteer army, and hence of the army as a whole (volunteers and regulars). The Act of Congress approved April 22, 1898, which authorized the President to raise a volunteer force, required that at the close of the war the medical records of the volunteers be turned over to the Record and Pension Office of the War Department. No opportunity was afforded me to tabulate the statistics of these volunteer troops as when the war ended many of the reports had not been rendered, and subsequently when they were received they were immediately transferred by me to the Record and Pension Office in accordance with the requirements of the law. I trust, however, that arrangements may ultimately be made which will enable me to submit hereafter as a supplement to this report a full tabulation of the medical and surgical statistics of the volunteer army during the Spanish-American War.

THE REGULAR ARMY

The mean strength of the army for the first four months of the calendar year of 1898 was only 28,198, but subsequent to this the strength was increased to 65,681 in December, the mean strength for the year being 46,625.

The admissions to sick report were equivalent to 2146.94 per thousand of strength, or to somewhat more than two entries per man of the mean strength present during the year. Although this is greatly in excess of the ratio of admissions in 1897, 1186.61, and of the mean annual ratio of the decade 1887-96, 1243.39, the actual rate was undoubtedly much larger, for, as already stated some of the reports for July and August were not rendered or were evidently incomplete. This excess was due to various camp diseases which caused 1937.71 admissions per thousand of strength as compared with 896.53 in 1897. During the year 1898, in which so large a proportion of the regular army was engaged in active hostilities in Cuba the ratio of injuries was considerably less than in the previous years of peace. The ratio of admissions for injuries was 209.23 per thousand men present as compared with 290.08 in the previous year, and 257.16, the mean annual rate of the decade immediately preceding. The explanation of this is no doubt that in the field no note was taken of the slight cuts and contusions which form so large a proportion of the medical record of a post in times of peace. The ratio of noneffeciency or of men constantly disabled from injuries was in 1898, 13.74 per thousand, while in 1897 it was only 9.12, and during the previous decade 8.62. This shows the greater gravity of the cases in 1898.

The total number of deaths from all causes was 1285, equal to a rate of 27.55 per thousand men, while in the previous year the rate was 5.11, and in the years of the previous decade 6.99. The death-rate from disease was 22, and from injury 5.55.

The loss to the service by disability, from disease and injury, was equivalent to 30.23 days for each man of the mean strength, as compared with 13.08 days during 1897, and 13.14 days in the years 1887-96. It will be seen from the above that while the admissions during the year were nearly twice as many as in previous years the constant sickness was more than doubled, and the death-rate equal to that of the previous year multiplied by 5.4.

Malarial infection was reported to have been the cause of 32,393 admissions, or nearly one-third of the whole number taken on the sick reports, equalling 694.64 cases for every thousand men enrolled. Diarrhea and dysentery continued 14,166 cases, or one-seventh of the whole number taken sick; injuries 9758, or nearly one-tenth of the whole, but only 1457 of these were gunshot wounds, while 3787 were contusions, only one of which was fatal; typhoid fever 4130 cases, equal to 88.56 per thousand men; yellow fever 604 cases, or 12.95 per thousand, and venereal diseases 3727 cases, or 79.92 per thousand.

The largest item in the death rate of the army was 9.74 deaths from typhoid fever in every thousand of strength. Gunshot wounds occasioned 3.94; malarial fevers 3.24; diarrhea and dysentery 2.14; yellow fever 1.50, and injuries other than gunshot 1.61, leaving 5.38 for distribution among all other causes of fatality to make up the total rate, 27.55.

The admission and death-rates in the Philippines, 2070.62 and 22.74, respectively, did not differ much from those in the United States, 2043.01 and 20.14; but the admission-rate was high in Porto Rico, 3350.78, compared with the death rate, 41.45; and the death rate high in Cuba, 98.16, compared with the admission rate, 2631.76, the last rate failing as already explained to give expression to the facts. In Cuba there occurred 374 deaths, 127 of which were the result of gunshot wounds, 67 of yellow fever, 54 of typhoid fever and 50 of malarial fevers. In Porto Rico a total of 80 deaths included 44 from typhoid fever and 11 from malarial fever. In the Philippines typhoid caused 22 deaths, smallpox 6, and malarial and diarrheal diseases 5 each in a total of 66. In the United States there occurred 234 deaths from typhoid fever, 85 from malarial fever, 53 from diarrhea and dysentery, 46 from gunshot wounds, and 3 from yellow fever, in a total of 765.

MORTALITY STATISTICS.

The total number of deaths in our armies, including regulars and volunteers, from May 1, 1898, to June 30, 1899, was 6619, of whom 496 were killed in battle, 216 killed by accident, 202 died of gunshot wounds and wounds received in action, 2774 from typhoid fever, 476 from malarial fever, 359 from pneumonia, 342 from diarrhea and dysentery, and 185 from yellow fever. Many of the deaths can not be distributed among their causes until the medical records of the volunteer army are available for statistical study. The figures just given are, therefore, subject to material change when this study has been completed.

SANITARY CONDITIONS.

The sanitary condition of the permanent military stations in the United States varied greatly during the year. Prior to the declaration of war with Spain they were all in excellent condition, or in the gradual progress to improved conditions as a result of the judicious distribution of the funds appropriated year by year for this purpose. Early in the year several new posts were established and old and abandoned stations regarrisoned chiefly with a view to coast defense. In May, 1898, many undisciplined troops were aggregated at Fort McPherson, Ga., and other posts. The most insanitary conditions immediately prevailed and an epidemic of typhoid fever was inaugurated.

Again on the return of the regular troops at the close of the war the quarters at a number of posts became overcrowded. This was particularly so at Columbus Barracks, Ohio, which was used as a recruiting depot. An epidemic of measles at this post was greatly increased in malignancy, and several deaths from cerebrospinal meningitis resulted from the overcrowding and the bad conditions associated with it.

The volunteer troops suffered severely from typhoid fever in the home camps during the months of July and August. By removing them from the infected camps to sites specially prepared for occupation in Alabama, Georgia, Kentucky, South Carolina and Tennessee, the prevailing sickness was materially lessened, although disease was again introduced into many of these commands by the coming of newly-raised regiments seriously infected with typhoid fever.

In view of the difficulty experienced in learning through chief surgeons of corps and departments the sanitary condition and sick-rates affecting individual regiments in the field, temporary garrisons and detachments, on Dec. 31, 1898, I called on medical officers serving in the field, or at temporary stations, for a weekly sanitary report of the command with which they were serving, these reports to contain a reference only to existing insanitary conditions, and to be forwarded through military channels to the Adjutant-General of the army, after the manner of the monthly reports rendered from permanent post under A. R. 1393. The object of these weekly reports was to obtain prompt action by local authorities on such conditions as lay within their jurisdiction. They effected this object admirably in securing the removal of many faults in the sanitation of the camps which would otherwise have had a powerful influence in augmenting the sick-lists of the army.

Since the occupation of Cuba by our troops in December, 1898, the percentage of sickness in the various camps and garrisons has been less than was anticipated, and, if we fortunately remain free from epidemic visitation, this percentage may be expected to diminish for some time to come, as the troops are now in barracks and have become somewhat accustomed to the climatic conditions. Measles, smallpox and cerebrospinal meningitis appeared at several posts, but generally the adoption of proper sanitary measures speedily controlled the disease. A serious outbreak of typhoid fever occurred among the troops at Puerto Principe, and this disease prevailed to a considerable extent in some of the regiments at Camp Columbia, near Havana, Cuba.

It is with pleasure that I report the passage of the yellow fever season of 1899 with the occurrence of so few cases of this disease, although our troops have been stationed within easy access to towns which are more or less infected. Medical officers were required to observe all fever cases with the utmost care, and to isolate any patient who had suspicious symptoms, and chief surgeons of departments were directed to select and recommend camping-grounds, and to urge that the commands be kept in a state of constant readiness to move should it become necessary to depopulate garrisons on account of infection. Occasional cases were reported at Guanajay, Camp Columbia, Sancti Spiritus, Matanzas, and Manzanillo; but there is a doubt as to the correctness of the diagnosis in some of these. A number of scattered cases occurred at Puerto Principe. It is evident from the history of these cases that the disease was contracted in the city and that the barracks remained free from infection; but for greater assurance of safety the entire command was removed to camp. At Santiago the adoption o proper measures succeeding in suppressing the outbreak, but no until 128 cases, of which 29 were fatal, had occurred among th troops. Among the victims of the outbreak were Capt. Paul Clendenin, asst.-surgeon, U. S. A. (Major, U. S. Vols.), in command o the general hospital, and Acting Asst.-Surgeon F. W. Fabricius, th pathologist of the hospital.

An epidemic of smallpox among the people of the Holguin di trict, of Santiago Province, was promptly suppressed by collectin and isolating the cases in pest-houses, burning or disinfecting a dangerous articles, and systematically vaccinating the people. No of the troops engaged in guard and police duty during the progre of this work became affected with the disease.

In Porto Rico the troops were scattered at a number of statio usually in the neighborhood of towns. At some of these they we quartered in barracks formerly occupied by the Spaniards; others buildings more or less suitable were rented for their shelt At those which are expected to be occupied for some time impro ments are in progress. Water-supplies have been improved a water-closets, baths and sewers have been planned and construct Five military hospitals, turned over to us by the Spaniards are service at San Juan, Ponce, Mayaguez, Cayey and Aibonito, resp tively, while temporary arrangements for hospital accommodati have been made at other stations. All are amply provided w the means for caring for the sick.

A most important sanitary work was undertaken and carrie a successful conclusion by the chief surgeon of this departm This was no less than the suppression of smallpox in the islan means of a general vaccination of the population. The work, gun in January, 1899, was carried on with energy and system completed. The vaccine farm, which was established at Co Springs to provide the necessary lymph, was discontinued Jul 1899.

That the sanitary arrangements on the transports which veyed the Eighth Army Corps across the Pacific were in com tively good condition, although hastily made, may be inferred the fact that only 12 deaths occurred in the command of 2 officers and men during their long voyage, equivalent to an a death rate of only about 5 per thousand of the strength. arrangements were greatly improved after the publication o Regulations for the army transport service, Nov. 6, 1898.

After the capture of Manila the troops of this army corps quartered in Spanish barracks, warehouses, public buildings private houses, all of which are represented in the report as h required much labor to put them into satisfactory con Malarial fevers, venereal disease and intestinal affections inc in prevalence week by week until December, when the heavy ceased. A notable improvement was then manifested, and, o 4, 1899, when the insurgents' attack was made, the comman considered to be in as good condition as when it entered the August, 1898. During this time cases of smallpox appeared in of the regiments, and special care had to be taken in the v tion of the men to suppress the threatened epidemic.

To care for the sick of the corps four large hospitals were lished: the First Reserve Hospital in buildings formerly o by the Spaniards as a military hospital; the Second Reserv pital in a building formerly used as an academy; a small h at Cavite, and one for convalescents on Corregidor Island, th having a capacity of 1738 beds and being well provided with ning needful for the treatment and comfort of the sick and ounded. That these hospitals were fully competent to meet the emands made upon them is shown by the fact that during the rogress of active hostilities, in February and March, 246 Fili-inos were received and cared for in the First Reserve Hospital.

During the attack on February 4, and the subsequent advance of ur troops, the ambulance company did excellent service in bring-g the wounded to the dressing-stations, from which they were romptly dispatched by rail to the First Reserve Hospital in Manila.

After the occupation of San Fernando, in May, the troops were eported by their medical officers as thoroughly exhausted by the ardships, exposures and deprivations of the campaign. The place ad a local reputation as a health resort, but the sick-lists con-nued to increase and the sick failed to show signs of progress ward recovery. They were withdrawn to Manila, where a change r the better was speedily manifested.

Meanwhile, in anticipation of the return of the volunteer troops r muster out, a model camp for their reception was constructed at e Presidio of San Francisco, Cal. This consisted of conical wall nts, floored and heated by stoves, lavatories, bath-houses and im-roved sinks, kept in proper condition by hired labor. Similar mps were constructed for the accommodation of recruits and mmands arriving en route for the Philippines, and the division ospital was expanded into a well-equipped, general hospital of 1000 ds. Suitable hospital provision was also made for a quarantine mp, established on Angel Island in the Bay of San Francisco. atisfactory accounts of the condition of these camps have been re-ived from medical inspectors.

WATER-SUPPLIES.

Speaking generally of these supplies I may say that our troops ring the past year were amply provided in their various camps ith water of excellent quality, and that in no instance was the pid spread of typhoid fever in a command conceded to be due to fection in the general water-supply.

At the outbreak of the recent war the purity of water-supplies r troops in the field was a subject to which much consideration as given. What was desired was a sterile water, a water free om all bacterial infection. Boiling is the readiest way by which drinking water may be sterilized, but it is difficult without special cilities to provide boiled water for a marching command and, oreover, many soldiers have a distaste for boiled water on ac-unt of its flatness from loss of the gases held in solution in the sh water.

By a combination of an asbestos strainer and a filtering cylinder compact infusorial earth, I hoped to be able to provide a means, once portable and efficient for rendering an infected water harm-ss. This combination was sent to some of the commands for trial. ose sent to Camp Alger were not used because the deep wells nk about this time in that camp furnished a plentiful supply of re water. They were afterward brought into service at Camp eade, Pa., not because the water there required this filtration, but th a view to familiarize the command with the method of using e filters. Some were used at Chickamauga Park, Ga., and a few re seen by my inspectors in company kitchens at Montauk Point, I. They answered their purpose very well when used intelli-ntly and carefully handled. They were largely employed at those ld hospitals which had to make use of surface waters, and occa-nal mention is made of them in reports from the temporary mps established on the occupancy of Cuba. Some time in August, 98, the National Relief Commission of Philadelphia, Pa., sent the troops in Porto Rico a number of utensils for boiling and rating water, but no report was made on the practical value of the oposed system. In fact, nothing could be learned of the disposi-n made of the articles shipped.

After this I submitted the subject of the sterilization of water troops in the field to a board of medical officers. This board viewed the various methods suggested, and tested the apparatus esented by manufacturers, and in its report described and ap-oved of a rapid and economical method of sterilization by boiling, e apparatus being known as the Waterhouse-Forbes Water Steril-er. The heat given out by the boiled water is utilized in heating e entering water. The boiled and aerated water is delivered om the apparatus at a temperature only of 4½ F. above that of e entering water. I have recommended that a number of these erilizers be sent out for practical test by troops in the field.

DISPOSAL OF EXCRETA OF CAMPS.

The danger of the propagation of typhoid fever and other in-tious diseases from ill-conditioned and infected sinks or privy s was well recognized during the past year. In fact, the sinks our large camps were objects of solicitude before the camps were ablished. In a circular issued on April 25 I directed the atten-n of medical officers to the importance of this subject. On gust 8, I again addressed these officers, and shortly afterward ade special publication of these paragraphs of the Manual for e Medical Department which give specific directions for dealing h infected sinks and cesspools.

s we now know the cause of typhoid fever and the physical d chemical agencies by which it may be destroyed, I had hoped t by making practical use of this knowledge we would have been e to avoid any great losses from this disease. That this hope s not realized I attribute to the inexperience of regimental medi- and line officers in sanitary matters, and the want of discipline ong the men.

During the movements of an active campaign, when a camp site abandoned after an occupation of a few days, well-cared-for privy s afford a simple and satisfactory means of disposing of the reta of the command. When, however, the camp is one of some manency, as is usual with camps of organization, recuperation, ster or territorial occupation, the danger from the use of this mitive system of conservancy is proportioned, other things being al, to the size of the command and the duration of its contin-ace on the same ground. With cases of typhoid fever, dysentery, camp diarrhea among the troops, the pits became foci of infection ich make their influence felt throughout the whole of the camp. infectants may and should be used, but experience has shown t a prompt and complete disinfection in these pits is difficult to ry out, and requires the most constant and intelligent super-ion.

am of the opinion that to avoid disaster in such camps and as economical measure, money should be expended freely in their tallation. I am confident that when a pure water is brought in, it should be, in quantity to supply bath-houses, as well as kitchens and quarters, it would be a wise policy to make provision for the removal of the impure, used and waste water, and to utilize its discharge for the removal of the excreta of the command.

If, however, there is objection on the ground of expense, or otherwise, to the construction of a sewerage system, some method of disinfection and removal of the disinfected accumulations may be used to advantage. With the view of improving the sanitary condition of the camps then in progress of establishment in the Southern states, and of those expected to be soon established in Cuba, I suggested the use of a galvanized iron receptacle, to be placed beneath each closet seat, each receptacle to have a narrow trough 3 inches deep around the outside for the purpose of containing a disinfecting liquid, so that, when the cover is placed in position in the circular trough, the liquid will act as a valve to prevent the entrance of flies and the escape of foul odors, the discharges to be received into carbolic acid, quicklime, dry earth or ashes, contained in the receptacle.

Meanwhile as I considered the possibility of some better means of disposing of the probably infected excreta of camps of some permanency not provided with a sewerage system, I submitted the subject to the consideration of a board of medical officers by whom a trough system with removal by pneumatic pressure was recommended.

This system is now in successful use in the camps established at the Presidio of San Francisco, Cal., at Camp Meade, Pa., and elsewhere, and the results attained are very satisfactory.

FOOD-SUPPLIES.

The remarks of medical officers under the heading of food-supply and its preparation, in the Monthly Sanitary Reports from the posts in the United States, are of the most satisfactory character. Even from the troops in the field and those subsequently in garrison in Cuba and Porto Rico there have been few official complaints either of the character of the articles issued by the subsistence department or of the methods or results of camp cookery. At the time when the country was agitated over the quality of the canned roast beef and the refrigerated beef furnished to the troops in the field, there were on file in this office only two papers having a reference to the beef supplies. One was a statement concerning the poor quality of the native Hawaiian beef issued to troops at Honolulu, H. I., with request that refrigerated beef be provided instead The second occurred in a report of a voyage made by the *Panama*, with sick and convalescents from Ponce, P. R., to Fortress Monroe, Va. The medical officer stated, incidentally, that the 720 pounds of refrigerated beef which he had received from the subsistence department had proved of great value to him during the trip. Concerning the quality of the canned roast beef, which was called in question toward the close of the year 1898, nothing need be said here, as the subject has already been thoroughly investigated. It may be mentioned, however, that for a time in May, 1899, during the occupation of San Fernando, P. I., report was made that the troops had been for a long period on the travel ration and that their health had no doubt suffered thereby. This was remedied as soon as reported, and no further complaint of this kind was made.

In fact, the general tenor of these reports is to the effect that the subsistence officers were eminently successful in having everything ready for issue when required, even in the trenches and on the firing line. The reports from Cuba and Porto Rico show the troops in these islands to have been as well provided for as those in the Philippines.

The only criticism made by medical officers, so far as I can gather, from their sanitary reports, is that for use in tropical climates the ration provides more of the hydrocarbons or fats than is needful, and that therefore these articles might with advantage be reduced in quantity, and the carbohydrates or starches and sugars to some extent increased. For my own part, with our system of company fund, I see no reason for making any special change in the ration. Those articles not used are credited to the men, and their money value can be used for the purchase of the articles that are found to be more desirable under existing conditions. Our present ration suffices for men under conditions of active service and extreme cold; it must therefore be sufficient under conditions which call for less heat production and for the expenditure of less energy, and thus give a company fund for the purchase of articles from the liberal supplies of the subsistence department, or from outside sources, that appear to be better suited for the occasion than the specified articles of the ration I consider it wise, therefore, to be slow in suggesting alteration in the components of the ration until experience has shown just what changes are assuredly desirable.

But while it may not be advisable to make any change in the ration established by law, it is a matter of the first importance to determine what is the best *dietary* for tropical use, that medical officers may urge its adoption by company commanders and that subsistence officers may have its components always on hand for issue

This subject is now prominently before medical men serving with troops in Cuba, Porto Rico and the Philippines, and their observations when submitted will no doubt be of considerable value to company officers in managing the domestic affairs of their commands.

In hospitals the 60 cent allowance for subsistence enabled medical officers to provide freely of every delicacy desirable for the sick At few of these was the whole allowance expended. At the general hospital at Fortress Monroe, Va., the average expenditure per man during the months August to December, inclusive, was only 30 cents. At Columbus Barracks, Ohio, 38 cents provided sick diet—"ample in all its details." The present allowance of 40 cents will undoubtedly cover the needful expenditures in our hospitals generally, although in some exceptional instances where high prices prevail a larger sum may be desirable

CLOTHING.

Most of the references to clothing in the sanitary reports have come from commands in Cuba and the Philippines. The blue uniform used in the United States was universally condemned as too heavy, and the woolen undershirts as occasioning much irritation of the skin from prickly heat. Canvas suits were represented as so stiff and heavy as to chafe the wearer until they became softer and somewhat pliant after repeated washings. A similar complaint was entered against some of the khaki issues. The campaign hat was condemned at first as too heavy. It was argued that the helmet used by the British troops in India gave the best protection for the head in tropical countries, on the ground that were this not so, the British would have discovered the fact long ago. But a longer experience with the campaign hat particularly after the rainy season set in, showed it to have advantages not possessed by the other forms of headgear

As the result of general experience it may be said that a light weight woolen undershirt is regarded as essential to prevent chilling of the body when damp with perspiration. Drawers should be of the same material, although some medical officers consider cotton to be preferable as cooler. A white duck uniform is recommended for garrison duty and the khaki suit for field service. As no reference to socks or shoes appears in the sanitary reports, it is inferred that these have given entire satisfaction. The desirability of having rubber clothing for use during heavy rains was expressed by a number of medical officers.

RECOMMENDATIONS.

The medical corps of the army, which was scarcely adequate before the war with Spain for our army of 25,000 men, is now entirely inadequate and should be increased as soon as is practicable.

Physicians and surgeons from civil life, however well qualified professionally, as a rule are not prepared to assume the responsibilities of medical officers charged with administrative duties and the sanitary supervision of camps. The proper performance of such duties can not be expected from a physician without military training or experience, no matter how distinguished a position he may have held in civil life.

Many of the commissioned medical officers of the volunteer army and of the acting assistant-surgeons have made rapid progress in acquiring a knowledge of their military duties and have demonstrated their fitness for the military service. In filling vacancies in the medical corps these gentlemen should in my opinion have the preference when they come within the established age limit and they are able to pass a satisfactory professional and physical examination.

The value of the aphorism "In time of peace prepare for war," has received additional support during our recent experience. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the national guard as well as for those of the regular army; also instruction of line officers in the elements of hygiene and especially in camp sanitation. It should also include the establishment of camping-grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war a saving in lives and money would have resulted, which would, without doubt, have demonstrated the economy of such preparation for war in time of peace.

CONCLUSION.

Before closing this report I desire to express my appreciation of the intelligent and zealous devotion to duty which, with few exceptions, has characterized the officers of the medical department, both regulars and volunteers, and including the acting assistant surgeons.

I have been ably supported in the administration of the affairs of the medical department by Col. Charles H. Alden, assistant surgeon-general, in charge of the supply division of my office; Col. Dallas Bache, assistant surgeon-general, in charge of the museum and library division; Col. Charles R. Greenleaf, assistant surgeon-general, chief medical inspector of the army; Lieut.-Col. Charles Smart, deputy surgeon-general, in charge of the sanitary division; Major George E. Bushnell, surgeon, U. S. A., in charge of the hospital-corps division; Acting Asst.-Surgeon Anita Newcomb McGee, in charge of the Army Nurse Corps (female), and by the chief surgeons of the various military departments. The chief surgeons on duty in the Philippines, in Cuba and in Porto Rico have occupied especially responsible positions and have discharged their duties in a manner most creditable to themselves and to the department.

The clerical force of my office has been working under the strain of enormously increased labor since the outbreak of the war with Spain and has met the task with intelligence and fidelity. The chief clerk, Mr. George A. Jones, and the older members of the permanent force generally have been indefatigable in their efforts to prevent the work of the office from falling behind, and by sacrificing leaves of absence due them and working out of the official office hours, have to a great extent been successful in so doing.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., November 10-16, 1899, inclusive.

John R. Clark, acting asst.-surgeon, previous orders detaching him from the General Hospital, San Francisco, Cal., to accompany troops to Manila, P. I., revoked.

Carl R. Darnall, lieut. and asst.-surgeon, U. S. A., from the Division of Cuba to temporary duty in the Department of the East.

Calvin DeWitt, lieut.-colonel and deputy surgeon-general, U. S. A., from Fort Monroe, Va., to the Division of Cuba, as chief surgeon.

Henry C. Fisher, major and surgeon, Vols., to proceed by the transport *Logan*, sailing from New York City, on or about November 20, 1899, to Manilla, P. I., for duty in the Department of the Pacific.

Aubray F. Higgins, acting asst.-surgeon, from temporary duty with the 49th Vol. Inf., to Jefferson Barracks, Mo.

R. M. O'Reilly, major and surgeon, U. S. A., from the Division of Cuba to duty at Fort Monroe, Va.

Perceval S. Rossiter, acting asst.-surgeon, from New York City, to San Francisco, Cal., for duty in the department

Julius A. Schuelke, major and surgeon 37th Vol. Inf., having tendered his resignation, is honorably discharged, to take effect Nov. 11, 1899.

Frederick H. Sparrenberger, acting asst.-surgeon, from New York City, to duty in the Department of California.

William C. Warmsley, lieutenant and asst.-surgeon 49th Vol. Inf., to join his regiment at Jefferson Barracks, Mo.

H. Brookman Wilkinson, acting asst.-surgeon, from Washington, D. C., to New York City, to accompany the 41st Vol. Inf. on the transport *Logan* for duty in the Department of the Pacific.

George A. Zeller, acting asst.-surgeon, from Peoria, Ill., to duty in the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending November 18, 1899.

Medical Director C. J. Cleborne, placed on the retired list of officers of the Navy from Nov. 10, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service; with the rank and three-fourths the sea pay of the next higher gra under section 11 Navy personnel law.

P. A. Surgeon L. L. Young, placed on the retired list of officers the Navy from Nov. 10, 1899, under section 1453, Revised Statut for incapacity incurred in the line of service.

Asst-Surgeon H. E. Odell, appointed from Nov. 8, 1899.

Asst.-Surgeon J. S. Taylor, appointed from Nov. 10. 1899.

P. A. Surgeon R. G. Broderick, placed on the retired list of offic of the Navy from Nov. 11, 1899, under section 1453, Revised Statut for incapacity incurred in the line of service.

P. A. Surgeon J. C. Rosenbleuth, sick leave extended two mont

P. A. Surgeon G. B. Wilson, detached from the *Constellation* a ordered to the *Dixie*.

P. A. Surgeon R. P. Crandall, ordered to the *Constellation*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissio and non-commissioned officers of the U. S. Marine-Hospital Serv for the seven days ending November 16, 1899.

Surgeon Fairfax Irwin department letter of June 16, 18 granting Surgeon Irwin leave of absence for three months amen so that said leave shall be for two months only.

Surgeon H. R. Carter, to proceed to Port Tampa City, Fla., special temporary duty.

Surgeon G. M. Magruder, to rejoin station at Memphis.

P. A. Surgeon Rupert Blue, department letter of Sept. 28, 18 granting P. A. Surgeon Blue leave of absence for one month a eight days amended so that said leave shall be for 27 days only.

Asst.-Surgeon Taliaferro Clark, granted leave of absence 15 days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plag have been reported to the Surgeon-General of the U. S. Mari Hospital Service during the week ended Nov. 17, 1899.

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Sept. 30 to Nov. 11, 5 cas

Illinois Chicago, Nov. 4 to 11, 1 death.

Louisiana: New Orleans, Nov. 4 to 11, 1 case.

Massachusetts: Chelsea, Nov. 4 to 11, 2 cases, 1 death.

New York: New York City, Nov. 4 to 11, 1 case.

Ohio: Cleveland, Nov. 4 to 11, 3 cases.

Pennsylvania: Alleghany County, Sept. 28 to Nov. 4, 1 ca Pittsburg, Sept. 28 to Nov. 4, 1 case; Cimbria County, 1 ca Fulton County, Sept 28 to Nov. 4, 3 cases; Indiana County, Se 28 to Nov. 4, 1 case; Jefferson County, Sept. 28 to Nov. 4, 1 ca Philadelphia, Sept. 28 to Nov. 4, 3 cases; Cumberland Coun Sept. 28 to Nov. 4, 6 cases.

Virginia: Portsmouth, Nov. 4 to 11, 2 cases, 1 death.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Oct. 7 to 21, 3 cases, 1 death.

Austria: Bohemia, Prague, Oct. 14 to 21, 4 cases.

Egypt: Cairo, Sept. 22 to Oct. 14, 2 deaths.

Greece: Athens, Oct. 14 to 21, 3 cases, 2 deaths.

India: Bombay, Oct. 3 to 10, 3 deaths; Madras, Sept. 13 to 1 death.

Mexico: City of Mexico, Oct. 15 to 29, 15 cases; Vera Cruz, N 2 to 9, 1 death.

Russia: Odessa, Oct. 14 to 21, 1 case; St. Petersburg, Oct. 14 21, 5 cases; Warsaw, Oct. 1 to 21, 9 cases.

Spain: Madrid, Oct. 7 to 14, 3 deaths.

Straits Settlements: Singapore, Sept. 7 to 14, 3 deaths.

Turkey: Erzeroum, Sept. 7 to 14, 1 case.

Uruguay: Montevideo, Sept. 16 to Oct. 7, 2 cases.

YELLOW FEVER—UNITED STATES.

Florida: Key West, Nov. 4 to 11, 6 cases; Miami, Nov. 6 to 24 cases, 2 deaths; Port Tampa, Sept. 4 to Nov. 16, 10 cases.

Louisiana: New Orleans, Nov. 6 to 19, 1 case, 1 death.

YELLOW FEVER—FOREIGN.

Cuba: Havana, Oct. 22 to 28, 3 deaths; Santa Clara, Oct. 27 death.

Mexico: Tuxpan, Oct. 23 to Nov. 6, 3 deaths; Vera Cruz, O 28 to Nov. 3, 7 cases, 2 deaths.

CHOLERA.

China: Hongkong, Sept. 3 to 30, 36 cases, 33 deaths.

India: Kurrachee, Oct. 3 to 7, 2 cases, 1 death; Bombay, O 3 to 10, 133 deaths: Calcutta, Sept. 23 to 30, 50 deaths.

CHANGE OF ADDRESS.

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Smart, W. M., from Muskegon, Mich., to San Diego, Cal.

Thomas, J. H., from McGregor to West, Tex.

Townsend, S. J., from Paton, Iowa, to Box 1025, Las Vegas, N

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Original Articles.

THE TONSILS AS PORTALS OF INFECTION.*

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That certain forms of infectious diseases follow closely on tonsillar affection, the same micrococci existing in he former as in the latter, and hence are mentioned as eing tonsillar in origin, is to-day an established fact.

Some of these facts are well-known, while others, eing of rare occurrence, or the study of which is of ecent date, have not received due consideration. The writer wishes to briefly present them all in this paper with the hope that subsequent discussion may bring out ny additional facts or shed new light thereon. The tudy of the etiology of disease becomes vitally necessary n that most important field of our work, preventive medicine.

The list of diseased states that follow the various orms of angina has become formidable and we should egard the tonsillar affection with the import its existence requires. Regarding the point of entrance of the nfection, Hodenpyl[1] showed that the tonsils themselves were not so apt to be the portals of infection unless there was some denuding of the epithelium. The tonsillar rypts, however, could readily assume that function, as he epithelium therein was very frequently destroyed. Patterson[2] claims that the supratonsillar fossa is a point from which micro-organisms invade the tonsils nd the surrounding tissues, and he points out how frequently implication of that space precedes the inflammatory trouble in the gland itself. These conclusions re also reached by Sawtelle[3]. Goodale[4] shows that olors rubbed into a hypertrophied tonsil were taken up n the interfollicular space, but not in the follicles. In fatal case of tonsillar abscess the autopsy showed more han a dozen small abscess cavities with thick walls, in he deeper portion of the tonsil. The anterior and posterior mediastinum and the pleura contained pus. There was an erosion of a vessel with a necrotic spot in the ight aryepiglottic fold. In the cases cited, the superficial parts being normal, diagnosis in life is not possible, nor is it of value once the blood is permeated. The same writer[5] found that in two peritonsillar cases it was evident that a discharge of the abscess into the efferent ymph-channels had taken place. The importance of his special lesion was obvious when it was borne in mind hat acute pyogenic infection of the follicles might lead o pyemia.

It has been maintained that rheumatism is the underlying cause of the tonsillar affection, but bacteriologic examination proves the infectious nature both of the tonsillar affection as well as its sequelæ. Cobb[6], in a carefully prepared paper, in a study of 44 cases of peritonsillar abscesses finds that no causative relation could be proved to exist between rheumatism and peritonsillar abscess. In answer to my query he writes that he believes that acute tonsillitis furnishes an entrance for bacteria into the system through the tonsils, but does not this belief explain a pericarditis and make a belief in its rheumatic origin unnecessary? That is, may not the pericarditis folowing a tonsillitis be a septic rather than a rheumatic one? We feel that these questions can be answered affirmatively both from our own experience and from the unmistakable proofs that we can present.

Buschke[7], after a series of clinical experiments, concludes that the tonsils are the portals for pus-bearing micro-organisms into the system. These bacteria do not enter the system through the tonsils without affecting them, be it ever so slightly, nor is a great disturbance, such as ulceration or diphtheria, requisite. J. R. Winslow[8], speaking of the tonsils as a menace to the organisms, says: "There is locally provoked a parenchymatous inflammation with proliferation of leucocytes which may or may not be accompanied by visible hypertrophy. This inflammation usually terminates in a few days, but may culminate in the formation of true abscesses. The germs of these abscesses can extend to neighboring organs or penetrate directly into the blood." Sweeney[9] claims that the theory that the tonsil is an open gateway for the reception of all kinds of disease germs is as plausible a point of infection as Peyer's patches or Brunner's glands. Pluder[10] holds that tonsillar protection to the invasion of disease is very small, as they are frequently diseased and hence are the portals of entrance for bacteria. Suchannek[11] says that the rheumatic infection begins, in a large majority of cases, in Waldeyer's ring, especially in the tonsil. Meitus[12] concludes that if the staphylococci and streptococci appear in mass, and if there is already a nervous joint affection, arthritis appears. In two cases reported by Wagner[13] the same micro-organism was found in the joint as in the tonsil. Roos[14] reports four cases of rheumatism following angina. Peltesohn[15] finds a close relationship between angina and rheumatism.

Sterling[16] reports five cases of lacunar tonsillitis followed by acute articular rheumatism, and Staffel[17] one of a woman of 34 who had recurring rheumatism, always commencing with tonsillitis. Treatment to the latter obviated the former. Hope[18] finds no connection between rheumatic conditions and acute tonsillitis, while Newcomb[19] states that the frequency of a rheumatic diathesis and common sore throat is greatly exaggerated.

The observations of Jessen[20] are very interesting and valuable. He quotes Boeck[21], Buss[22], Hodenpyl[23], Ribbert[24] and others on the subject of the tonsils as a mode of entrance for severe general infection. He reports four cases and says that these might readily be mistaken for influenza were it not for the evidence furnished by the bacteriologic examination. These conditions are probably rarely noted, because they follow the throat affection rather late, and when they present themselves the throats are clear. No reference is here made of metastatic conditions following phlegmonous infection. It is especially noteworthy that superficially the tonsil is clear, but in the deeper crypt we find the point of infection. Why one has sequelæ and the other not opens up the whole subject of the virulence of microorganisms and the resistance of the individual.

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*Read before the New York County Medical Association, Nov. 20, 1899.

One case reported by Jessen may be of interest. A woman, 24 years old, had frequent attacks of follicular tonsillitis. To the customary symptoms pain in the heart was added. On arrival at the hospital the next day both tonsils were reddened and swollen, and white patches were present in spots. Two days later she died. The autopsy revealed small abscesses in the lungs and spleen and serous exudate in the pericardium and pleura. Pus exuded from the tonsils on incision. In all abscesses, including the tonsillar, staphylococci were found.

Concerning the diseased conditions that have been noted to follow angina, Du Mesnil de Rochmont[25] mentions the following: Albuminuria, erythema, urticaria, purpura, erysipelas, orchitis and oöphoritis, pleuropneumonia, strabismus and paraplegia, and also osteomyelitis. Many have found tonsillar affections to be the commencement of pyemic and septic diseases. More recently it has been described by various authors as being the first stage of an articular rheumatism. This is attempted to be proven because the pyogenic cocci found in the joints correspond to those found in the throat. This, the writer says, should be carefully considered, as these same cocci are found in normal mouths. There may also be a purely accidental coincidence of pus in two separate parts of the body, and the bacteriologic findings are by no means uniform. We have long known the tonsillar inflammation to be due to infection and have tried to isolate the bacillus.

Among some of the unusual sequelæ of tonsillar inflammation we find that Zilgien[26] has reported four cases of angina pectoris following tonsillar disease. The angina is a neuralgia of the cardiac plexus occasioned by the toxins introduced through the tonsil. Troisier and Decloux[27] mention a case of phlebitis in the leg, following streptococcus angina; Wallace[28], a case of septic pneumonia following quinsy. In the sputum, streptococci, staphylococci and pneumococci were found. Lermoyez[29] reports a case of membranous angina followed by purulent pleurisy with fatal results. A. Logan Turner[30] says that the tonsils have for a long time been suspected of being one of the points of infection for tuberculosis, and dwells on the need of bacteriologic examination. In his cases but 6 per cent responded to the histologic test, while 20 per cent. showed tuberculosis bacteriologically. Otitis media with its mastoid and intracranial complications may frequently be traced to an attack of tonsillar inflammation.

In addition to the diseases enumerated as being tonsillar in origin, it has been shown quite lately that we must add endocarditis to the list.

Charrin[31] reports a case of a young man of 18, who died of general pyemia consequent on tonsillar affection. The autopsy showed bronchopneumonia and deposits on the tip of the pulmonary valves. Staphylococcus aureus was found there and in the white tonsillar exudate. B. Abrahams[32] states that many cases are now on record in which endocarditis had followed a nc scarlatinal tonsillitis unaccompanied by joint pain.

At a recent meeting of the Association of Americ Physicians, Dr. F. A. Packard[33] reported five cases endocarditis, all of which had been preceded by an tack of amygdalitis. The minutiæ of the physical sig were detailed to insure the correctness of the diagno of endocarditis. In two of the cases it was certain th prior to the attack of amygdalitis the hearts had be sound, and it was presumable that such was also the ca in the other instances. Mention was made of the f quency of such cases, and also of the occurrence of oth members of the so-called "rheumatic series" aft amygdalitis. It was stated that such amygdalitis a endocarditis are not rheumatic, but that the endocardi is rather due to an infection by bacteria gaining acc to the body through the tonsils, or to the toxins of su bacteria.

To these cases of the latter I can add another: male, aged 19, single, clerk (indoor occupation), ca to my office, complaining of attacks of syncope a vomiting, May 25, 1899. There was an intense pall and very anxious expression about the face, lips cyano and a cold, clammy skin. No pain was elicited, the a domen was normal and also his lungs. A faint blowi sound was heard over the heart, which was not convey in any direction. His pulse was 56, small and int mittent. Strychnia was immediately administered a he was advised to go to his Brooklyn home at once a go to bed. At my request, Dr. Jacob Fuhs of Brookl saw him the following day. His history and conditi is thus stated by Dr. Fuhs: "The patient has a go family history, had varicella two years ago, of a seve type, but well after from three to four weeks. Patie has been nervous from childhood. On May 1, 1899. had an attack of follicular tonsillitis, slight rise temperature, some pain in deglutition; well after fo days, apparently. May 25, while attending to his wo he was taken with an attack of syncope and vomitir was seen by Dr. Emil Mayer, who sent him home a requested me to see him. I found him cyanotic, co extremities, irregular small intermittent pulse. For ble and diffuse apex-beat, systolic, soft blowing murm at point of auscultation of the pulmonalis; no rise temperature; slight pains referred to the muscles of t shoulders and legs; otherwise, nothing. Urine hig colored but normal. Diagnosis: Endocarditis followi tonsillar infection."

His subsequent history is continued by Dr. Jac Long of Brooklyn, who remained the attending phy cian consulting with Dr. Fuhs from time to time: "T endocardial murmur became fainter and fainter, a about the middle of June the patient went to the Ca kill Mountains. Symptoms of hemichorea of the rig side developed, which became very pronounced and vere. There was then but a very faint systolic murmu pulmonary artery, but nothing else. On August 28, returned, still exhibiting marked chorea, which affected his laryngeal muscles. Just as he stumbled his walk, so did his words become jumbled, and sentences were often meaningless on that account. W absolute rest and increasing doses of arsenic he mad complete recovery.

In reviewing the history it may be necessary to that he never had any rheumatic trouble, and that t was no previous abnormality about his heart, of w I have had abundant opportunity to be certain, as I known him all his life and have examined him f time to time.

From the facts here presented, it must be admitted at septic infection of a serious and often fatal nature curs after tonsillar infection. It is still maintained at the tonsil stands frequently on the defensive, and at although disease germs are found in them the sys- n has not become infected. This is notably true in berculosis, where the bacillus has been found in the nsil, while no evidence of the disease existed else- iere. It is perhaps pertinent to ask in this connection: iat of the individuals who have no apparent tonsils, whom there are a large number? Are they any more bject to disease than the possessors of tonsils? To swer this would lead us into the field of speculation of e unknown function of the tonsil, and is not germane the subject of this paper. Granting that we have tablished the etiologic factors of some of the infec- ous diseases it becomes our manifest duty to take such eps as will tend to the prevention of such infections. e should positively maintain that neither follicular nsillitis nor peritonsillitis are the innocent affections have hitherto classed them as being. We should eat those conditions energetically; in the former, rest bed, iron locally and given internally during the at- ck. In the latter, much will depend on the stage of the sease. If seen within twenty-four hours of the onset can be aborted. This I have seen occur so frequently at I must assert it as a clinical fact. Cases where year ter year the inflammation has gone on to formation of is and incision have, on presenting themselves thus rly, cleared up entirely, and no recurrence showed thin the usual period of relief.

The remedy thus efficacious consisted of:

R.	Morph. sulph	0.06
	Tr. veratr. virid	4.0
	Aq	126

M. Sig. Teaspoonful every hour for three hours; then once three hours.

If after twenty-four hours there is no relief, its use ust cease, and then soothing applications, hot gargles id poultices, rest and the salicylates are given. In out ten days pus is formed and must be evacuated. fter these anginas have subsided, a very careful ex- nination of the fauces should be made and every bit tonsillar tissue removed, either with the gouge of irlow or by tonsillectomy with the galvanocautery wire. eb of St. Louis originated a very clever device for is purpose. The advantages of this latter method can t be overestimated. The dangers of hemorrhage after nsillotomy are entirely obviated, as this is a bloodless ethod, and therefore entirely safe in adult or child. ie strictest attention to hygiene of the mouth should enjoined even after thorough ablation of the tonsils.

It seems necessary to call attention to the fact that erative procedures must under no circumstances what- er take place while an acute process is going on.

The conclusions a study of these affections enables us arrive at are: 1. Infection arises in the tonsil. 2. nsillar affections are frequently serious in their se- ielæ and every step to prevent recurrent attacks should taken. 3. The existing tonsillar disease should be ergetically treated. 4. Careful examinations and atment are absolutely essential in the interim. 5. llowing anginas, the heart and other organs should examined from time to time.

25 E. 77th St.

BIBLIOGRAPHY.

1. Am. Jour. Med. Sci., 1891.
2. Laryngoscope, July, 1898.
3. Medical Monographs, Feb., 1899.
4. Arch. f. Laryngol., Bd. 7.
5. Jour. Laryng., Rhin. and Otol., Aug., 1899.
6. Boston Med. & Surg. Jour., July 27, 1899.
7. Zeitsch. f. Chir., Bd. 37.
8. Maryland Med. Jour., May, 1899.
9. JOURNAL A. M. A., 1899, p. 654.
10. Monatsch. f. Ohrenh., No. 4, 1898.
11. Bresgen's Sammlung. Zwang. Abh., H. i.
12. Cincinnati Lancet-Clinic, March 28, 1896.
13. Trans. Am. Laryng. Assn., 1895.
14. Berliner Klin. Woch., 1894, No. 24.
15. Internat. Arch. f. Laryngol. and Rhinol., vii, H. i.
16. Kronika Lekarska, No. 15, 1895.
17. Zeitschr. f. Prakt. Aertz., No. 4, 1896.
18. Trans. Am. Laryngol. Assn., 1896.
19. Atlantic Med. and Surg. Jour., Feb., 1897.
20. Muench. Med. Woch., 1898.
21. Tidschrift f. Prakt. Med., 1882.
22. Arch. f. Klin. Med., 54, 1896.
23. Loc. Cit., No. 1.
24. Deutsche Med. Woch., 1887.
25. Muench. Med. Woch., March 7, 1899.
26. Rev. Med. de l. Est., Oct., 15, 1897.
27. Bull. Soc. Med. des Hopit., Feb. 11, 1898.
28. Lancet, London, Feb., 1896.
29. Annales des Mal., de l'oreilles, etc.
30. Progressive Med., March, 1899.
31. Semaine Med., March 14, 1896.
32. Med. Press and Cir., London, 1899.
33. N. Y. Med. Jour., June 24, 1899.

A CASE OF BLASTOMYCETIC DERMATITIS OF THE LEG.

BY LUDVIG HEKTOEN, M.D.

CHICAGO.

I am greatly indebted to Prof. J. B. Murphy and Dr. W. E. Coates for allowing me to use the clinical history of, and the material from, the following case of blastomycetic infection of the skin of the leg.

Clinical History.—Mrs. W., aged 64, married, with an uneventful family and personal history, was admitted into Professor Murphy's clinic, Nov, 10, 1897, on account of a lesion on the right leg, of which she gave the following account: Four months previously a small pimple appeared of itself, on the posterior surface of the lower third of the right leg; three or four days later a second pimple sprang up; both seemed to contain clear fluid. Gradually the two fused into one larger mass, which slowly enlarged. After one month the swelling was opened by a doctor and a bloody fluid escaped, after which it slowly "dried up." In a few weeks it reopened and ulcers would form, heal up, and appear again, the swelling slowly increasing. When she appeared in Professor Murphy's clinic there was a circular, elevated, cauliflower mass, as large as a silver dollar, with an irregularly ulcerated and red surface. The growth was regarded as probably carcinomatous and removed by a circular incision running 2 cm. outside of its margins, the subcutaneous fat and superficial fascia being dissected away continuously with the diseased tissue. The defect was covered by a plastic operation. Primary union followed. The subsequent history is not known.

Description of Gross Specimen.—The part removed was mounted in glycerin-jelly and placed in the museum of the College of Physicians and Surgeons. It now—March 26, 1899—presents the following appearances (Fig. 1): There is an ovoid raised area, 4 by 5 cm. in the principal diameters, surrounded by a strip of healthy-looking skin from 1 to 2 cm. wide, the under surface being composed of yellow subcutaneous fat. The central area is quite evenly and abruptly raised above the level of the surrounding skin to the extent of about .5 cm., its margin round, the sides partly covered by epidermis, the surface marked by larger and smaller elevations and depressions and deeper furrows, which give the surface somewhat of a cauliflower appearance; the surface is yellowish in color, showing also several reddish spots which in some places correspond to superficial erosions. On section the raised part seems to be made up of a rather homogeneous, now yellowish tissue which is quite sharply and evenly demarcated from the subcutaneous fat tissue on a level with the corium of the surrounding healthy skin.

Histologic Examination.—The tissue was fixed in formalin and alcohol, imbedded in paraffin, and stained with hematoxylin and eosin, polychrome methylene blue, etc.

The sections include part of the elevation of the skin and underlying tissues; at its highest point the elevation rises .5 cm. above the level of the healthy skin present near one edge of the sections. The larger part of the nodule and the adjacent skin from which the nodule rises gradually are covered by a moderately thickened epithelial layer, the horny stratum of which is rather coarse and thicker than usual; part of the elevation is without any normal epithelial covering and presents irregular, somewhat crater-shaped depressions; the margins of the ulcers and the immediately adjacent surfaces are composed of irregular masses of epithelial cells and intervening elevations which contain inflammatory tissue, necrotic debris, leucocytes and fragments of horny matter. The elevation is due principally to a marked epithelial hyperplasia in the form of irregular, branching bands and masses, as well as separate nests the centers of which are generally more or less hornified. In many places these epithelial proliferations consist largely of typical prickle cells.

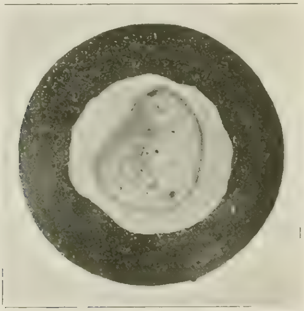

Fig. 1.—Photograph of blastomycetic lesion of the skin of the leg. One-third natural size.

The histologic resemblance to flat-celled carcinoma is often marked (Fig. 2). This proliferation appears to have started from the epithelium about the crater-shaped ulcers, and to have progressed downward as well as laterally, without having become united with the overlying intact epidermis, the thickening of which is largely due to polypoid downgrowths of the interpapillary portions. Between the epithelial masses and bands is a very vascular and cellular connective tissue the seat of a marked leucocytic and other cell infiltration; in some places there are more focal accumulations of leucocytes constituting miliary abscesses. Similar miliary abscesses occur also in the centers of masses of epithelial cells. The size of these abscesses varies greatly; they are usually round or irregularly oval, and in the case of the intra-epithelial abscesses the surrounding epithelial layers are usually composed of greatly flattened cells. Scattered polymorphonuclear leucocytes occur also within and between the epithelial cells. There is also considerable cellular infiltration of the fibrous tissue below and to the sides of the epithelial proliferation; the deep margins of the sections are formed by normal fat tissue.

Examined with higher powers, the miliary absces
are found to in some instances contain one or two typi
doubly contoured blastomycetes, with granular and oc
sionally vacuolated protoplasm. (Fig. 3.) The org
isms are round, about 12 microns in diameter; disti
budding forms are present; some of the bodies cont
one or more vacuoles of irregular size and outline. I
lated organisms have also been found outside of
typical miliary abscesses, lying in the granulation
sue and usually surrounded by a few polymorpho
clear leucocytes, which seem to be gathering around
blastomycetes. Some of the organisms are stained v
distinctly in the methylene blue specimens.

In addition to the densely packed polymorphonucl
leucocytes, the miliary abscesses also contain cells w
oval, more vesicular nuclei and occasional multinucl
giant cells of the tuberculous type. Some of the gi
cells contain quite typical organisms.

The inflammatory tissue between the epithelial mas
and in the corium proper and the subcutaneous tis
contains quite large accumulations of, as well as sc
tered, typical plasma cells, which in their reaction
methylene blue as well as in all other details correspo
to the classic type of this cell; in the hematoxylin s
tions the finely granular protoplasm of the plasma
stains a light bluish tinge. New-formed vessels in wh
are lymphocytes, plasma cells and polymorphonucl
leucocytes are present; some of these cells are seen pa
ing through the vessel walls. In some vessels the lun
is packed with lymphocytes only. There are also no
few eosinophile cells, both within and outside the
sels, a few large cells with vesicular nuclei and a cya
phile, granular protoplasm which the polychrome me
ylene blue stain seems to show are mast-cells, and, fi
ly, occasional multinuclear giant cells of the tube
lous type. Tubercle bacilli are not present in the
tions stained with carbol-fuchsin.

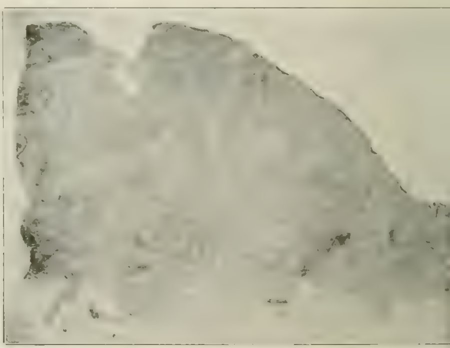

Fig. 2.—Showing epithelial proliferations, superficial ulcers and
ary abscesses. 60.*

Not a few karyokinetic figures are seen in the cell
the granulation tissue, and occasional circular group
hyaline spheres are also present.

This case has already been considered in an articl
Hyde, Hektoen and Bevan.[1] The case merits sp
notice because the clinical resemblance of the growt
carcinoma and its histologic resemblance on the
hand to carcinoma and on the other to tuberculosis
phasize well the importance and also the difficulty of

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* Figs. 2 and 3 were used in the British Jour. of Derm., 1899, N
Vol. xi.

agnosis of chronic blastomycosis of the skin. The inical aspects of blastomycetic dermatitis have been lly considered by Hyde in the article just mentioned. wish to emphasize the histologic characteristics of the rms of chronic cutaneous blastomycosis of which the ove case is a good example. The marked epithelial oliferation in the form of carcinomatoid masses and owngrowths, associated with the formation of em- ryonal cells in the stroma, with giant cells and much ucocytic infiltration, diffuse as well as focal, in the rm of miliary abscesses between as well as within the ithelial masses, constitute the characteristic histologic cture of this form of mycosis, the blastomycetic ture of which is definitely established by finding the aracteristic, double-contoured, budding, yeast-like ganisms in the lesions, usually in the miliary abscesses. these respects the cases of Gilchrist and Stokes, Wells, yde, Hektoen and Bevan, and of Owens, Eisendrath d Ready[2], the above case and two unpublished cases, e specimens from which were kindly shown me by Dr. . E. Coates and Dr. M. Herzog—a courtesy for which I n very thankful—resemble each other completely, and ey constitute a quite well-defined clinical and histologic oup which is easily separated from the distinctively ppurating and destructive form of blastomycosis as il- strated by Busse's case, the dermatologic features of hich have been especially studied by Buschke,[3] and by e case briefly described by Hessler.[4] And yet it ap- ars not unlikely that the cases of chronic blastomy- tic dermatitis such as the one now reported may be oduced by organisms which differ so much in their aracteristics that they must be regarded as distinct rieties. Thus the blastomyces dermatitidis described by lchrist and Stokes differs considerably from the or- nism in a blastomycetic dermatitis which I studied.[5] ut the classification and the botanic relations of the so- lled blastomycetes are as yet in a rather unsettled con- tion. While the histologic structures of chronic cutan- us blastomycosis resemble in some ways carcinoma to ch an extent that errors might easily be committed in icroscopic diagnosis—a fact of considerable interest connection with recent efforts to demonstrate that rcinoma and sarcoma are caused by yeast, or other ngi yet none of the cases of blastomycetic dermati- far described have pursued the clinical course charact- istic of carcinoma to the extent that regional or general rcinomatous metastases have been noted. The possibil- y that a genuine carcinoma may originate in the lesions cutaneous blastomycosis is of course apparently no more remote than the development of carcinoma upon the basis of cutaneous tuberculosis. The cases of blastomycetic dermatitis are as yet too few and the periods of observation too short to make many dogmatic statements. Thus nothing definite can as yet be said concerning the mode of infection, except that from its usual localizations it appears to occur from without. I have made a number of experiments on animals, with the organism isolated from the case under the care of Drs. Hyde and Bevan, looking to the production of a primary cutaneous process, but so far without success.

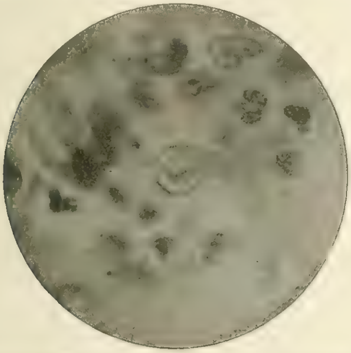

Fig. 3.—Double-contoured, vacuolated, budding blastomyces in a miliary scess. X 750.

BIBLIOGRAPHY.

1. A Contribution to the Study of Blastomycetic Dermatitis: British Jour. of Derm., 1899, xi.
2. Annals of Surgery, Nov., 1899.
3. Uber Hefenmykosen bei Menchen und Thieren: Volkmann's Sammlung Klin. Vorträge, 1898, 218; Uber Hautblastomykoses, Verh. d. vi; Deutschen Dermatolog. Congresses, 189s.
4. Indiana Medical Journal, 1898; JOURNAL, 1898.
5. Journal of Experimental Medicine, 1899, iv, 261.

"CHRONIC RECURRING MEMBRANOUS PHARYNGITIS."*

BY JOHN O. McREYNOLDS, B.S., M.D.

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The literature on this subject is so limited, and reports of well-authenticated cases so few in number that I shall pass at once to the brief description of this case in the hope that discussions will follow that will contribute something to our knowledge of this disease. Sir Morell Mackenzie seems to have had by far the most extensive acquaintance with this subject and his experience with it covered a period of only about two years, and nothing was found that had any material effect on the progress of the malady, although his cases without exception recovered. The name which he gives to the trouble is chronic diphtheria, but it differs so widely from ordinary diphtheria in its clinical history and its microscopic findings, that I would suggest the name "chronic recurring membranous pharyngitis," until a more accurate knowledge of the subject can be obtained.

The patient, who is now under my care, Miss L. D., 19 years old, and in fair general health, I have observed for fourteen months. When uninfluenced by treatment the membrane will recur two or three times a week, and each time will remain one or two days and then become completely exfoliated of its own accord, leaving the throat in apparently a healthy condition. But if it is removed forcibly and prematurely, it leaves a raw surface covered by a glairy material, and readily bleeds on manipulation. The area varies at different times, and it sometimes covers the entire pharynx and soft palate; it always covers the latter. The specimen which I show to you was taken from the soft palate and before its removal had all the pearly whiteness of enamel, with numerous fine pinhole perforations.

The microscopic examination which has been repeatedly made, both with and without cultures, has never revealed the bacillus of diphtheria, although the patient several years ago had an attack of genuine diphtheria. The micro-organisms found in large quantities were streptococci and staphylococci, but there is no evidence to prove their causative relation.

The patient has been able to follow her vocation with only slight interruptions, and the constitutional manifestations have been mild in comparison with the marked local involvement. The disease is entirely distinct from pharyngomycosis and allied affections, and from the various transient forms of membranous pharyngitis. The daily ingestion of raw onions or the local applications of strong solutions of iodin or nitrate of silver will keep off the membrane for a period of two weeks, but after using a multitude of remedies, I have found nothing that will produce a permanent cure, although I am confident that the disease will in due time spontaneously subside.

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MANAGEMENT OF CASES OF HIGH ANISOMETROPIA.*

BY EDWARD JACKSON, A.M., M.D.

DENVER, COLO.

Among 1000 consecutive cases of ametropia requiring correction, 62 presented one eye at least 1 D. more hyperopic or more myopic than the other. Of these, the difference amounted to 2 D. or upward, what might be regarded as high anisometropia, in 27. In addition to these, there were in the same series, 43 cases in which the astigmatism of one eye was 2 D. (or more) higher than the astigmatism in the other eye; or there was 1 D. or upward of astigmatism in each eye, and 20° or more difference in the directions of the meridians of greatest refraction. Among these the difference of astigmatism was 4 D., or there were 2 D. of astigmatism in each eye with 20° divergence of meridians in 19 cases. Among 1000 cases of ametropia there were, therefore, 107 that may be practically classed as cases of anisometropia; and of these, 46 of high anisometropia. That the management of these cases is of much practical importance needs no further illustration.

One word with reference to the inclusion under anisometropia, of astigmatism of equal or nearly equal degrees in the two eyes, but with meridians of greatest refraction differing greatly in direction. In the practical management of anisometropia, the special difficulty to be met is the lack of correspondence in the two retinal images. This lack of correspondence is as great, as annoying, and as persistent when it lies in the shape of these images as when it is in their size. It causes symptoms of the same class, and is overcome in the same way. In a majority of cases, too the lack of correspondence between the retinal images is partly a difference of size and partly a difference of shape. For these reasons a practical classification will place both sorts of refractive difference between the two eyes, under one head.

In considering their management, cases of anisometropia may be divided into two groups: Those best served by binocular vision and those who can most satisfactorily use one eye for far-seeing, and the other eye for near-seeing. Donders' third class, in which there is "constant exclusion of one eye," has no place in a practical consideration of the subject. A patient with one eye does not have anisometropia; and if one eye be blind, anisometropia does not enter as a practical factor, to influence the management of the case. In most cases of anisometropia, one eye sees better than the other. But even if one eye sees very much better than the other, if the eyes are properly directed, the worse eye usually assists in a kind of binocular vision, and the case belongs clearly in the first class. If the eye with poor vision deviates, the case becomes one of squint with anisometropia; to be considered, classified and managed from the various standpoints appropriate for a case of squint. If the squint can be eliminated, the case will immediatel fall under one of the two heads first mentioned.

I dwell on this point because Donders' third clas has furnished a convenient dumping ground into whicl have been pitched a great many cases of anisometropia by those who lack the time, patience, or mastery of objective methods for measuring refraction, that are required in dealing with such cases. To correct the better eye, and "neglect" the other is strictly a case of neglect. Something can nearly always be done to help an render more useful the worse eye, even when it is no practical to give it a full correction.

The patients who can best use their eyes in alternation, the one for far-seeing, the other for near-seeing must have corrected vision approximately equal in th two eyes, and a difference of hyperopia or myopia o about 3 D., or upward. Cases of this kind are quite exceptional; in the series above mentioned there were bu two. As they illustrate quite different conditions, I introduce them both.

Case 1.—Mrs. N., aged 57, had noticed a difference betwee the eyes from childhood. The correcting lenses and visio were:

R.=+1.25 sph.=4/3 partly.
L.=—2⌣—0.75 cyl. ax. 80°=4/4.

She had glasses prescribed some years previously by anothe ophthalmologist, which partly corrected the anisometropia but which proved quite unsatisfactory and were not used. ordered

R.=+1.25 sph.
L.=+0.75 cyl., ax. 170°.

These were worn constantly, and with immediate satisfaction, the right eye being used for distant vision, the lef for near-seeing.

Case 2.—Mr. S., aged 54, always near-sighted, and a grea reader, with considerable cortical lens opacity, vitreous opacities, and choroidal changes. He had spherocylindric lense of equal strength (—5 with —3 cyl.) which had been give him to read with. But he preferred to read without them, an having lost his distance glasses used them for distance. Hi correcting lenses, and vision obtained, were:

R.=—7.50⌣—4 cyl., ax. 75°=4/15+
L.=—9⌣—3 cyl., ax. 12°=4/12.

He had esophoria 2 centrads, and left hyperphoria 8 centrads, which increased to 15 centrads on looking upward—insufficiency of the right superior rectus. The different shape of the retinal images, due to the 63° difference in the directio of the corresponding meridians of the two eyes besides hi heterophoria, prevented satisfactory binocular vision, throug his correcting lenses. I therefore gave him for constant use

R.=—7.50⌣—4 cyl., ax. 75°.
L.=—4.50⌣—3 cyl., ax. 12°.

Of these he wrote a month later: "I have no reason to complain. They give me better satisfaction than any I have ha for some time."

Lenses given for alternating vision cause the sam difficulties while becoming accustomed to them, as d the lenses of equal strength for cases free from anisometropia. But they do not cause the difficulties that attend fusion of the images after correction of anisometropia, in patients capable of binocular vision. Thes latter special difficulties are very real and often ver great. One patient says: "I cannot wear the glasse straight lines all looked curved through them;" ar other, "I feel as if I were about ten feet high;" anothe "everything seems coming up to me;" anothe "Objects at a distance of ten or fifteen feet i front of me seem to be leaning toward me, and are som times racked at the corner as well;" another, "I am tc old a man to walk up hill all the rest of my life," an so on.

Generally this sort of trouble is less when the visio in one eye is very defective; and in young patients. Bı even a young person may not have sufficient perseve ance to become accustomed to correcting glasses, and a ye with very imperfect vision may resent the change in he size of its retinal images, as the following illusrates:

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

CASE 3.—Mrs. A., aged 23, had been successfully operated on hen 5 years of age, for convergent squint. Binocular vision ould not be demonstrated by any of the ordinary tests. She ame for eye-strain. She was wearing. R. +4 sph. and L.+3.75 ph.⌣1 cyl., ax. horizontal. The full correction and vision btained were:

R.=—4 sph., V= counting fingers at 8 feet.
L.=+4.25⌣+2 cyl., ax. 165°. V=4/4, mostly.

Without lenses the right eye could only count fingers at ree feet. It had no central scotoma, but vision seemed relavely better in the periphery of the field. I ordered correcting enses. She returned in a week saying that she could not wear em. I reduced the lenses before the right eye to —0.75 sph. he tried these three weeks and returned with the statement at she "could not stand them." She still saw outlines of rge objects doubled. I now gave her +4 sph. for the right ye, the left remaining unchanged throughout, and the glasses ere perfectly satisfactory.

In contrast with the above is the following:

CASE 4.—Mrs. K., aged 33, had known that the left eye was efective for many years, and lately the right had started to che. Her correcting lenses and vision were:

R.=+1 sph.⌣+0.25 cyl., ax. 85°=4/3, partly.
L.=+6 sph.⌣+3.50 cyl., ax. 180°=4/30.

This patient had been wearing right and left +0.25 sph. for everal months. She had binocular fusion with right hyperhoria, 2 centrads, and exophoria of about the same amount. short trial of the two correcting lenses seemed to cause no arked inconvenience from distortion of objects. I ordered e full correction for each eye for constant use. Four onths later she said: "At first I feared they would not suit. ow I don't know what I could do without them."

Patients with very high myopia are rather likely to and the correction of high anisometropia without exessive inconvenience from it.

CASE 5.—Mrs. R., aged 31, near-sighted from childhood, ad worn R. and L. 9. For eight years she saw very impeectly with them, and had recurring styes. Her correcting enses and the vision they gave were:

R.=—14 sph.⌣—2.50 cyl., ax. 15°=4/9, partly.
L.=—20 sph.⌣—2 cyl., ax. 180=4/20.

Her power of accommodation was about 8 D., and trial of e lenses caused no inconvenience. I ordered the full correcon for both eyes. No great difficulty was experienced with em, and four months later she reported she was "rid of styes tirely," and "if the eyes stay like they are I will be well tisfied."

In a larger portion of cases, however, the ultimate mplete correction of high anisometropia is better ached by the wearing for a time of partial correcons; as in the following:

CASE 6.—Mrs. A., aged 27, highly myopic, with marked oroidal changes and recurring styes, was found to require:

R.=—10 ⌣—1 cyl., ax. 15°. V=4/6.
L.=—4 ⌣—1.25 cyl., ax. 180°. V=4/5, mostly.

She was given the full correction in the left eye and at first
R.=—7 ⌣—1 cyl., ax 15°.

At the end of seven months the right lens was changed to
—9 ⌣—1 cyl., ax. 15°.

And six months after that, the full correction for the right e was given.

The above cases illustrate the points of most importce regarding the management of cases of high anisoetropia. Every case must be a subject of careful inividual study; and the selection of a lens for the worse e, at first somewhat tentative. But our efforts may directed very definitely toward certain objects.

In a few cases capable of nearly equally acute vision both eyes, the more hyperopic or less myopic eye hould have its correcting lens, to fit it for distant vison; and the other eye, the lens which will adapt it for sion at about one-third of a meter.

In other cases the object should be the full optical orrection in each eye, to be attained either immeditely or by successive increments, in the strength of the ns for the more ametropic eye.

In rare cases we must be content with the full correction of the better eye; and the adjustment to the other of the lens that will enable it to give most aid in binocular vision.

In anisometropia, the placing of the lenses closer to the eye lessens the annoyance caused by differences between them, because the nearer the lens is to the eye, the less it affects the nodal points of the dioptric system, and the size of the retinal image.

In rare cases of very high myopia in one eye with the other eye but slightly myopic or hyperopic, the removal of the crystalline lens from the myopic eye would be proper. I have advised such a procedure in two cases, but neither of these patients thought the probable benefit worth the trouble and risk. The difference in the refraction of the two eyes necessary to justify this measure is not less than 12 D. If corneal incision ever comes into practical use to modify high astigmatism, it will first be proper to apply it in cases of high anisometropia.

[Discussion next week with other papers of the symposium.]

ASTIGMATISM AFTER CATARACT EXTRACTION.*

BY C. F. CLARK, M.D.

COLUMBUS, OHIO.

The perfection attained in modern operative methods warrants the assertion that with reasonable self-control on the part of the patient and thorough aseptic precautions both during the operation and after the treatment, the results of correctly performed extractions of mature, uncomplicated, senile cataract should be fairly uniform, and the patient's vision should very nearly approximate 20/20.

To the astigmatism, which so frequently results from cataract extraction, is often due our failure to obtain this perfect result. If the degree is high, even though it be regular, it is sometimes impossible by means of any glass to correct it in such a manner as to obtain full vision and, even where central vision of 20/20 is obtained by the aid of strong cylindrical lenses, such lenses are well known to have some serious disadvantages in general use, not the least of which is the necessity for great care in keeping them accurately adjusted to the one position before the eye in which good vision may be obtained.

It is extremely desirable, therefore, in order in some measure to avoid operative astigmatism, that we should understand its nature and those influences which tend to produce it.

A number of valuable contributions to our knowledge of post-operative astigmatism have been made from time to time, and while, perhaps, nothing original may be added, it is my object in the present paper to briefly present the results of a study of a series of my own cases compared with those of others and a summary of the deductions of greatest importance to the practical operator which may be warranted by the present state of our knowledge of the subject.

It is capable of demonstration by measurements with Javal's ophthalmometer that an incision of such size as is required for the extraction of cataract will generally be followed by a diminution of curvature in the meridian at right-angles to the incision and in many instances, what is often lost sight of, a less marked increase in that of the opposite meridian.

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The conditions which influence the production of operative astigmatism may be grouped as follows: 1. The form and location of the incision. 2. The nature of the healing process. 3. The degree of tension from within or pressure from without, which may influence this healing process.

An incision at right angles to the surface of the cornea would probably be an ideal one so far as astigmatism is concerned, but in an operation so complex as the extraction of cataract, it is a grave error to be so far a slave to a single idea as to sacrifice general results to our theories on some one point in the operative procedure, however important that point may be, and in the selection of an incision there are greater evils to be avoided than the production of astigmatism, even though a moderate degree should be permanent. Were this not the case we would probably, for the sake of avoiding astigmatism, adopt Graefe's long since abandoned, peripheral-linear incision.

To avoid loss of vitreous, iridocyclitis and, if performing simple extraction, prolapse of the iris, is a consideration of vastly greater importance than the production of a few diopters of astigmatism, but if the latter may, in some measure, be avoided by modifying our incision without sacrificing points of more serious importance it is well to do so.

The writer has found his best results follow an incision which begins in the extreme margin of the transparent corneal tissue, follows the corneal margin until within about 1.5 mm. of the summit and then turns forward and emerges with the knife in the plane of a great circle. This incision is not, in my judgment, so frequently followed by iris prolapse as one completed in the periphery, but whether it is always less apt to be followed by astigmatism I have not made a sufficient number of accurate measurements to determine. Indeed, my results would suggest that possibly this form of incision may be a little more prone to cause astigmatism than others.

On the nature of the healing process much depends as to the degree of the resulting astigmatism. In all cases the interposition of new tissue in the wound caused by displacement of the flap must lead to alteration of curvature; and retarded healing from restlessness on the part of the patient, undue movement of the eyes and inflammatory reaction causes swelling of the corneal tissue and consequent displacement.

Conditions within the eye, which favor increase of the intraocular contents, whether due to previously established disease or irritation accompanying the operative traumatism, continually tend to reopening of the wound and consequent increase in the astigmatism; and this brings us to the consideration of the influence exercised by the iris in causing or preventing astigmatism and the advantages or disadvantages of an iridectomy prior to or at the time of the extraction of the lens.

Here, as in the selection of the form of the corneal incision, so many other and weightier considerations must be taken into account that the question of the production of a little more or less astigmatism seems of relatively slight importance, but while it is with special reference to the causation of astigmatism that we are now considering the question, it is well to remember that whatever operative method or mode of after-treatment succeeds best in preventing reopening of the corneal wound tends to prevent infection and iritic exudation in the pupillary space as well as permanent astigmatism.

It is like touching on one's religious or political creed to open up the subject of simple or combined extraction with an ophthalmic surgeon and, if we will be entirely frank, most of us must, with the religionist and the partisan, acknowledge the existence of a shade of bigotry or prejudice which leads us to look somewhat askance on methods which differ greatly from the one which in our hands has proven most satisfactory. Even in some of our best text-books this subject is dealt with in a manner to make more strongly manifest the writer's qualifications as a partisan than as a scientist, and the author's own method is often insisted on as the only true one.

After careful study of a long series of my own cases, with their visual results, I was led a short time since to make some comparisons with the results obtained by others who operate by a different method, and the fact that, so far as the production of astigmatism is concerned, their results were sometimes better than my own has led me of late to investigate the subject still further.

For many years, when no unusual condition has rendered such a course impracticable, it has been my practice to perform simple extraction, carefully irrigating the anterior chamber with a sterilized 3 per cent. salt solution by means of a simple pipette or Andrews' dropper. The visual results obtained by this method have been excellent and compare favorably with the statistics of other operators, but for some time I have suspected that the degree of astigmatism resulting was higher than it should be.

Prolapse of the iris may cause regular and, at times, irregular astigmatism, and is undoubtedly one of the disadvantages against which we must take precautions in simple extraction but, while under favorable conditions it does occur, this has not been very frequently the case in my experience and, unless the hernia is large, the resulting vision is often excellent. I am convinced that years ago when I systematically performed an iridectomy I had at least as much trouble from prolapse of vitreous and shreds of capsule in the wound as I have had from prolapse of iris since I have adopted simple extraction.

There is, however, a tendency in many cases for the iris to become slightly incarcerated or, more frequently, pressed forward and adherent to the posterior lip of the wound over more or less of its extent. This is not infrequently found in cases with excellent vision and, so far as the safety of the eye is concerned, has not seemed to be a serious matter, even, as I have been led to believe, sometimes acting as a conservative measure. But while it is not, perhaps, a matter of positive demonstration, it is very probable that at times the corneal astigmatism which makes its appearance after simple extraction may be traced to the bulging forward of the lips of the wound owing to the fact that the adherent iris prevents free escape of aqueous, when other causes have produced undue intraocular tension.

It is claimed that an iridectomy involving the excision of only a very small portion of the pupilary margin will, in addition to facilitating the removal of cortical substance, strongly tend to prevent prolapse and adhesions of the iris to the wound by allowing the aqueous to escape when the tension increases, and whether this claim has been fully established or not, it is certainly worthy of careful consideration, and a study of the tables presented below tends to convince one that the operation with a preliminary iridectomy, even though it be small, is apt, for some reason, to be followed by far less post-operative astigmatism.

It is possible that iridectomy prevents astigmatism y allowing the cortical lens substance to be more thorughly removed and thus avoids such tension as might rise from irritation due to that cause; but in some ases in which I have performed simple extraction and y deliberate manipulation with repeated irrigation ave cleansed the aqueous chamber so thoroughly as to ee no further evidence of retained cortical substance uring the healing process, I have still had astigmatism f considerable degree which was associated with adheion of the peripheral portion of the iris to the surface f the cornea over a portion of the posterior lip of the ound.

If one might have an opportunity at frequent intervals o see the patients on whom he has operated, and make a areful study of the changes which take place in each ase, much might be learned that would be of great inerest to the operator. In a recent instance I had this pportunity, and the study of the variations of corneal urvature was very instructive. I quote it, not as bringng out any new point, but as a fair illustration of what e would probably find in many other cases could we see hem at frequent intervals.

Paul J., aged 53, a watchmaker, consulted me on ept. 1, 1898, with senile cataract, incipient in the left, nd almost mature in the right eye, which he stated had ever been as good as the left.

His vision was:

R.= Fingers at 1 foot.

L. = 5 22.3 + 2 cyl., ax. 180 = 5/12—

By Jan. 18, 1899, his vision in the left eye was so deective as to make it impossible for him to continue his ork, and he decided to enter the hospital. Jan. 26, 899, I operated on the right eye by simple extraction, rrigating the anterior chamber and obtaining an apparntly good, primary result, but later I observed a small mount of cortical substance and capsule remaining in he superior, temporal quadrant of the pupilary space, nd, owing as it appeared to slight traumatism inflicted y the patient, a moderate amount of iritis developed hich yielded gradually to atropia and hot fomentaions.

The incision was of the form described above, the nife following the sclerocorneal margin until about .5—2 mm. from the summit, and then turning well orward and emerging in a plane perpendicular to the urface. At the end of eighteen days there remained light injection of the bulbar conjunctiva and the wound resented a narrow cicatricial line with its inferior lip ery slightly more elevated than the superior.

The following table will illustrate the variations in he corneal astigmatism, which may be taken as typical f what would be found in a large proportion of smooth, pward, corneal sections for the removal of cataract.

ASE OF PAUL J. ILLUSTRATING THE CHANGES TAKING PLACE IN THE CORNEAL CURVATURE DURING THE HEALING PROCESS AFTER SIMPLE EXTRACTION OF CATARACT.

	Right Eye			
ight days before op. Jan. 18, 1899.	Hor. 25	Vert. 24.75	Astigmatism .25 axis 120	Vision. Fing. at 1'
an. 26, 1899, I operated				
eb. 13, 1899, 18 days..	27.25	22.25	5 axis 180	+9. ⊃+4. ax. 180°=5/12
eb. 17, 1899, 22 days	27.75	22	5.75 " 180	9 ⊃ 3 " 180 5/5
eb. 20, 1899, 25 days	27.25	22	5.25 " 180	
eb. 23, 1899, 28 days	26.75	22.75	4 " 180	8.5 ⊃ 3 " 180 5/7
eb. 27, 1899, 32 days	26.75	23	3.75 " 10	
Iarch 3, 1899, 36 days	26.5	23	3.5 " 5-10	+8.5 ⊃ 3 " 180 5/5
Iarch 10, 1899, 43 days	26.5	23.5	3 " 5	+9 ⊃ +2 " 180 5/5
Iarch 14, 1899, 47 days	26.25	23.5	2.75 " 5	9 ⊃ 2.5 " 180 5/5
Iarch 22, 1899, 55 days	26.25	23.5	2.75 " 5	9.5 ⊃ 2 " 180 5/4
Iarch 29, 1899, 62 days	26	23.5	2.5 " 10	9 ⊃ 2 " 5 =5/4

From the above it will be seen that the horizontal meridian, which before the operation had a curvature equivalent to about 25 D., increased after the operation to 27.75 D., while the vertical meridian, which before the operation had about 24.75 D., was reduced by flattening to 22 D., a difference of 2.75 D. in each meridian.

It will further be seen that as the healing process progressed there was a constant tendency to decrease in the curvature of the horizontal and increase in the vertical meridian and at about the same rate, so that at the end of sixty-two days the horizontal meridian had a curvature of 26 D., or 1 D. more than before the operation, while the vertical had a curvature of 23.5 D., or 1.25 D. less than before the operation.

It will also be seen that for some four weeks after the operation there was a marked discrepancy between the astigmatism as measured by the ophthalmometer of Javal and the correcting cylindrical lens, but that as the cornea approximated its normal curvature this discrepancy disappeared and the accepted lens corresponded almost exactly with the finding of the ophthalmometer.

It will still further be noted that from the highest to the lowest degree of corneal curvature it was possible to obtain vision of 5/5, and that, while the corneal astigmatism varied from 5.75 D. to 2.5 D., the accepted lens, after the capsule had cleared and the cortical substance had been absorbed to such a degree as to make it possible to obtain 5/5 vision, varied only from 3 D. to 2 D.

Theoretically one would suppose that the presence of a fairly firm secondary pupilary membrane, if there were in it band-like fibers, would tend to produce an increase in the corneal curvature in the direction of such bands, and I had on several occasions made an especial effort to compare the degree of astigmatism before, with that found after a secondary operation, without being able to recognize any appreciable difference, but, a short time ago in one instance, that of Mrs. Flora M.—not included in the following list because her primary vision was only 20/100—I found positive proof that a secondary, cicatricial band may maintain a degree of corneal curvature which will disappear when the membrane is divided.

Since the following table was taken from my case records, I performed a discission in this case and, on dividing a fairly firm, secondary band which lay in the horizontal meridian, I observed that as it broke there was such a separation as to indicate that it had been acting as a bow-string maintaining the convexity of the corneal arch, and on measuring the corneal curvature, I found it had diminished by 1.25 D.

Thirty-one days after her primary operation the ophthalmometer of Javal revealed astigmatism equal to 14.5 D., ax. 15°. On March 27, 1899, fifteen months later, Javal revealed:

R. E.=15 29 D. L. E.=no astigmatism
105° 22.5 D.

Total astigmatism.. 6.5 D.

On March 28, 1899, I performed a discission of R.E. and preliminary iridectomy of L. E.

April 5, 1899, eight days after the discission:

R. E.=15 27.75 D. L. E.=15 25.5 D.
105° 22.5 D. 105° 25 D.

Total astigmatism. .6.5 D. .5 D.

As compared with 6.5 D. before discission.

While it is only very infrequently the case that the cause of post-operative astigmatism may be found in conditions not dependent on the form or position of the wound or the character of its healing process, this case is interesting because it illustrates the possibility of the secondary membrane producing astigmatism by maintaining the convexity of one meridian of the cornea as a bow-string maintains the convexity of a bow.

In a study of the literature at my command I have found that few of those who have published the results of their cataract extractions have included in their tables a report of the refraction, or ophthalmometric observations, and it has therefore not been possible to compare the degree of astigmatism as obtained by the various methods of operation and after-treatment in as large a number of cases as would be desirable, but the tables presented below will be of some interest.

In order to determine how far the presence of the iris is responsible for the production of post-operative astigmatism, and to what degree asymmetry of the cornea may be avoided by the performance of an iridectomy, I have made a comparison between my own results in thirty consecutive cases and the same number reported by Dr. J. A. Lippincott.[1] And as the proportionate degree of influence which astigmatism exerts in reducing the vision of an operated eye is difficult to estimate when associated with defects in the retina, opacities of the capsule, or other lesions of transparency, I have, for the purpose of this comparison, excluded all those cases in which the vision fell below 20/40. Dr. Lippincott makes a small, preliminary iridectomy, generally downward, and freely irrigates the aqueous chamber with an excellent instrument which he has devised for that purpose.

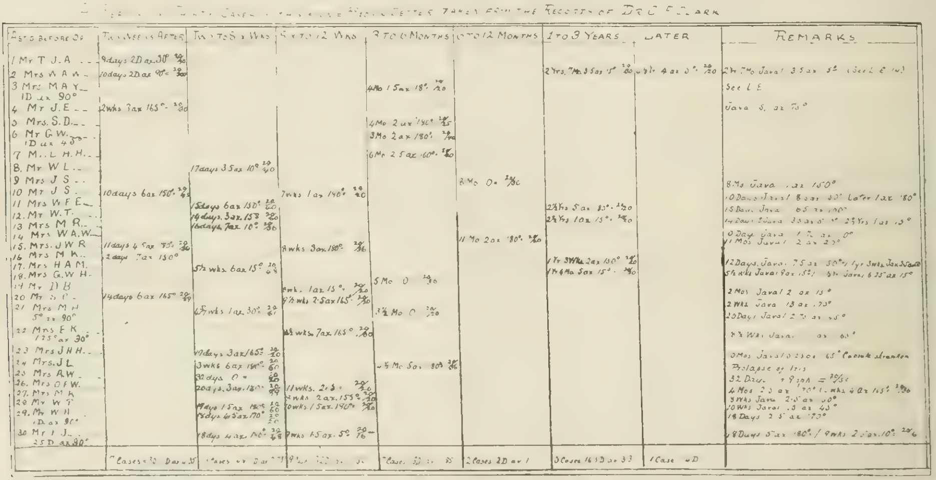
In my own cases a simple extraction was performed and the aqueous chamber freely irrigated, generally with an Andrews' dropper or pipette. In a few instances I adopted a plan which suggested itself to me some months ago and which I have since found to serve an excellent purpose. After freely dividing the anterior capsule in such a manner as to detach, where it is practicable, a quadrangular portion from the pupilary area, and stirring up the anterior cortex, if that prove to be soft, I irrigate thoroughly while the nucleus remains in position to protect the posterior capsule, and before the suspensory ligament has been stretched by the effort to deliver the lens. By this means it is often possible t remove not only the detached portion of the anteric capsule but a considerable portion of the soft lens sul stance without incurring serious risk of loss of vitreou and in these instances, after this preliminary irrigation the nucleus is easily delivered and any remaining frag ments of cortex are removed by gentle pressure aided b repeated irrigation.

In the arrangement of the following tables I hav for the sake of comparison, adopted a form similar t that employed by Pfingst in: "Corneal Measuremen After the Extraction of Cataract."[2]

A SERIES OF 30 CASES WITH VISION = 20/40 OR BETTER, TAKEN FRO THE RECORDS OF DR. J. A. LIPPINCOTT.

1.—Mrs. M. S., astigmatism two weeks after operation 1. ax. 180 = 20/4 five weeks after operation, 1. ax. 180 = 20/30.

2.—A. R., astigmatism three weeks after operation 7. ax. 180 = 20/3 six weeks after operation, 3. ax. 180 — 20 30.



[illegible] Thirty Cases [illegible] = 20/40 [illegible] Better Taken from the Records of Dr C F Clark

Astig. Before Op.	Two Weeks After	Two to Six Wks	Six to 12 Wks	3 to 6 Months	6 to 12 Months	1 to 3 Years	Later	Remarks
1 Mr T. J. A.	9 days 2D ax 30° 20/30							
2 Mrs W. A. W.	10 days 2D ax 90° 20/200					2 Yrs. 7 Mo 3.5 ax 15° 20/20	4 Yrs 4 ax 0° 20/20	2 Yr 7 Mo Javal 3.5 ax 5° (See L. E. [illegible])
3 Mrs M. A. Y. 1D ax 90°				4 Mo 1.5 ax 18° 20/20				See L. E.
4 Mr J. E.	2 wks 3 ax 165° 20/30							Java 5 ax 75°
5 Mrs. S. D.				4 Mo 2 ax 180° 20/25				
6 Mr G. W. 1D ax 45°				3 Mo 2 ax 180° 20/40				
7 Mr L. H. H.				6 Mo 2.5 ax 60° 20/20				
8. Mr W. L.		17 days 3.5 ax 10° 20/40						
9 Mrs J. S.					8 Mo 0 = 20/30			8 Mos Java 1 ax 150°
10 Mr J. S.	10 days 6 ax 150° 20/4[illegible]		7 wks 1 ax 140° 20/20					10 Days Javal 8 ax 30° Later 1 ax 180°
11 Mrs W. F. E.		15 days 6 ax 150° 20/40				2½ Yrs 5 ax 80° 20/20		15 Days Java 6.5 ax 100°
12. Mr W. T.		14 days 3 ax 155° 20/20				2½ Yrs 1 ax 15° 20/40		14 Days Javal 3.5 ax 5° [illegible] 2½ Yrs 1 ax 15°
13 Mrs M. R.		16 days 7 ax 10° 20/30						
14 Mrs W. A. W.								10 Days Java 1.5 ax 0°
15. Mrs. J. W. R.	11 days 4.5 ax 75° 20/30		8 wks 3 ax 180° 20/30		11 Mo 2 ax 180° 20/40			11 Mos Javal 2 ax 20°
16 Mrs M. K.	12 days 7 ax 150°					1 Yr 3 Wks 2 ax 150° 20/20		12 Days Javal 7.5 ax 50° / 1 yr 3 wks Javal [illegible]
17. Mrs H. A. M.		5½ wks 6 ax 15° 20/48				1 Yr 4 Mo 5 ax 15° 20/40		5½ wks Javal 9 ax 15° / 1 Yr Javal 6.25 ax 15°
18. Mrs G. W. H.				5 Mo 0 20/36				
19 Mr D. B.			8 wks 1 ax 15° 20/20					2 Mos Javal 2 ax 15°
20 Mr S. C.	14 days 6 ax 165° 20/[illegible]		9½ wks 2.5 ax 165° 20/30					2 Wks Java 13 ax 175°
21 Mrs M. H. 5° ax 90°		4⅝ wks 1 ax 30° 20/[illegible]		3½ Mo 0 20/20				20 Days Javal 2 [illegible] ax 45°
22 Mrs E. K. 12.5° ax 30°			8½ wks 7 ax 165° 20/30					8½ Wks Javal [illegible] ax 65°
23 Mrs J. H. H.		17 days 3 ax 165° 20/40						3 Mos Javal 0.25 ax 65° Capsule [illegible]
24 Mrs. J. L.		3 wks 6 ax 180° 20/60		4½ Mo 5 ax 180° 20/36				Prolapse of Iris
25 Mrs A. W.		32 days 0 = 20/50						32 Days + 9 [illegible] = 20/50
26. Mrs O. F. W.		20 days 3 ax 180° 20/[illegible]	11 wks 2.5 = 20/20					4 Mos 2.5 ax 170° / 11 wks 4 ax 165° 20/30
27. Mrs M. K.			8 wks 2 ax 155° 20/20					8 Wks Java 2.5 ax 90°
28 Mr W. T.		11 days 1.5 ax 180° 20/60	10 wks 1.5 ax 140° 20/30					10 Wks Javal .5 ax 45°
29. Mr W. H. 1D ax 90°		15 days 6.5 ax 170° 20/50						15 Days 2.5 ax 170°
30 Mr T. J. 2.5D ax 90°		18 days 4 ax 180° 20/48	9 wks 1.5 ax 5° 20/16					18 Days 5 ax 180° / 9 wks 2.5 ax 10° 20/16
	7 Cases [illegible] Days 3.5	[illegible] Cases [illegible]	[illegible]	7 Case [illegible] 5	2 Cases 2D av 1	3 Cases 16.5 D av 3.3	1 Case 4D	

3.—D. R., astigmatism three months after operation, 0 = 20 40.

4.—J. R. S., astigmatism three and one-half weeks after operation 1 ax. 180 = 20 20.

5.—Mrs. S. S., astigmatism seven weeks after operation, 1. ax. 20 = 20/

6.—J. K., astigmatism eight and one-half months after operation, 0 20 20. Vision in this case slightly reduced later.

7.—Mrs. J. M., astigmatism four weeks after operation, 0 = 20, 30.

8.—J. W. H., astigmatism seven weeks after operation, 0 = 20, 20; ni and three-fourth months after operation 0 — 20, 15.

9.—J. S., astigmatism five weeks after operation, 0 = 20 30; nine a one-half months after operation, 0 = 20 [illegible].

10.—Mrs. W. H., astigmatism five weeks after operation, 1 ax. 18 20, 30. Later (ten months after operation) reduced to 20 30.

11.—W. H., astigmatism five weeks after operation, 0 = 20 30.

12.—Miss E. D., astigmatism ten months after operation, 0 = 20, 40.

13.—Mrs. W. C., astigmatism nine and one-half weeks after operatio 3 ax. ? 20 20.

14.—Mrs. J. B., astigmatism three and three-fourth months after operation, 2. ax. 180 - 20 40.

15.—Mrs. J. L., astigmatism eight weeks after operation, 2. ax. 18 20 30.

16.—J. McA., astigmatism six and one-half weeks after operation, 2 180 = 20 40; seven months after operation, 5 ax. 25 = 20 [illegible]. Loss of V Slow healing.

17.—Mrs. J. M. S., astigmatism eight weeks after operation, 0 = 20 4

18.—Mrs. L. K. F., astigmatism ten weeks after operation, 0 = 20 20.

19.—Mrs. J. C., astigmatism seven months after operation 5. ax. 18 20 30.

20.—G. M., astigmatism six weeks after operation, 2 ax. 180 = 20, three and one-half months after operation 1. ax. 180 - 20, 40.

21.—P. D., astigmatism five months after operation, 0 = 20 30.

22.—G. C., astigmatism three months after operation, 0 = 20, 30.

23.—J. G., seven and one-half weeks 1. ax. 180 = 20 30.

24.—G. E., astigmatism five and one-half weeks after operation, 1. 30 = 20 20.

25.—Mrs. M. R., astigmatism ten weeks after operation, 0 = 20 40.

26.—C. S., astigmatism nine weeks after operation, 0 = 20, 30.

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[1] Trans. Am. Oph. Society, 1891.

[2] Knapp's Archives, vol. xxv, p. 333.

27.—Mrs. T. J., astigmatism thirteen days after operation, 2.5 ax. 180 = 0/80; ten and one-half weeks after operation, 2. ax. 180 = 20/30.
28.—S. P., astigmatism four weeks after operation, 1 ax. 180 = 20/30.
29.—P. V. J., astigmatism nine weeks after operation, 2. ax. 180 = 20/30.
30.—Mrs. W. C., astigmatism nine and one half weeks after operation, = 20/40.

In two cases astigmatism two weeks after operation, = 3.5 D., average, 7.5; in ten cases, two to six weeks after operation, = 14.5 D., average, .45; in fourteen cases, six to twelve weeks after operation, = 16. D., average, 1.14; in six cases, three to six months after operation, = 7.5 D., verage, 1.25; in five cases, six to twelve months after operation, = 3 D., verage, 0.6.

As a summary of the above tables we have the folowing: Thirty consecutive cases of simple extraction ompared with thirty cases of extraction after prelimnary iridectomy, excluding all those in which vision fell elow 20/40.

	C. F. C. Simple Extraction.	J. A. L. After prelim. Irid.
Average degree of astigmatism at last examination	2.7 D.	0.96
No astigmatism	3 Cases.	14 Cases.
2 dioptres or more	20 "	8 "
4 " "	7 "	0 "
5 " "	5 "	0 "
Highest degree of astig.	7 D.	3.5 D.
Average vision	20/25.36	20/31.33
20/20 "	18 Cases.	6 Cases
20/25 "	1 "	0 "
20/30 "	4 "	14 "
20/36 "	4 "	0 "
20/40 "	3 "	10 "

A careful study of the complete list from which the bove cases were drawn reveals a very slight advantage average results in favor of the operation with a preminary iridectomy, but when the individual cases are udied there remains a doubt in one's mind as to its eal advantage in this respect.

That a preliminary iridectomy greatly diminishes e tendency to the production of post-operative asgmatism is reasonably established by the above figures. hether it accomplishes this: 1, by permitting the ore thorough cleansing of the aqueous chamber; 2, allowing the aqueous to escape through the coloboma d between the lips of the wound, thus relieving temorary increase of intraocular tension during the healg process, as has been claimed for it by its advocates; 3, whether the larger pupilary opening and the catrization of the edges of the coloboma prevent, in a easure, the contusion and inflammatory reaction in e iris which at times retards the healing process and us favors the displacement of the edges of the wound, ay be an open question. But I am strongly of the inion that the more thorough cleansing and the avoidnce of contusion of the iris during the delivery of the ns are the most important factors in preventing the velopment of astigmatism.

In order to make a fair comparison of the degree of tigmatism following the various methods of operating is necessary to confine ourselves to a study of correonding periods after the operation, or to choose a riod so late as to be reasonably sure that no change likely to occur. This limits us to a small number of ses for comparison, but the following tables, while r this reason they are not conclusive, are of interest they include a comparison of the results as far as tigmatism is concerned, of three instead of two operrs.

While the average degree of astigmatism in my cases s lower than that reported by Pfingst at the end of o weeks after the operation, it will be observed that the end of six or eight weeks it was somewhat in cess, while at every period at which comparison was made, Dr. Lippincott, who performs a preliminary iridectomy, had a much lower average.

We are, perhaps, not justified in drawing conclusions on so important a subject from so small a number of cases, nor from the work of so limited a number of operators, but judging by the facts at our command, it would seem that a cataract extraction after a preliminary iridectomy is apt to be followed by far less astigmatism than a simple extraction, and one would naturally draw the inference from this that an operation with preliminary iridectomy as practiced by Dr. Lippincott was to be preferred, but it would appear that, at least in the series of cases presented above, this advantage is gained at the expense of a sacrifice in acuity of vision, as there were only six cases with vision of 20/20 among the thirty in which a preliminary iridectomy was performed as compared with eighteen among an equal number with simple extraction.

A COMPARISON OF THE DEGREE OF ASTIGMATISM FOUND AFTER OPERATION IN A SERIES OF EIGHT CASES IN WHICH ASTIGMATISM WAS MEASURED SIX TO EIGHT WEEKS AFTER OPERATION. RECORDED BY A. O. PFINGST, J. A. LIPPINCOTT AND C. F. CLARK.

	A. O. P.	J. A. L.	C. F. C.
2 wks after Op.	46 Cases. Aver 6.3 D *	2 Cases Aver. 1.75 D	9 Cases Aver. 4.72 D
1	6 weeks after op. 2. D	8 weeks after op. 4.5 D	7 weeks after op. 2.5 D
2	8 weeks after op. 1.25 D	6 weeks after op. 1. D	8 weeks after op. 2 D
3	8 weeks after op. 2.5 D	6 weeks after op. 2. D	8 weeks after op. 1 D
4	6 weeks after op. 7. D	8 weeks after op. 0. D	7 weeks after op. 1 D
5	6 weeks after op. 2.25 D	6 weeks after op. 2. D	7 weeks after op. 4 D
6	8 weeks after op. 1.25 D	8 weeks after op. 2. D	8 weeks after op. 3 D
7.	6 weeks after op. 2 D	6 weeks after op. 0. D	6 weeks after op. 6 D
8	6 weeks after op. 2.5 D	7 weeks after op. 1. D	7 weeks after op. 3 D
	8)20.75 D	8)12.5 D	8)22.5 D
	Average astig. 2.59 D	Average Astig. 1.56 D	Average Astig. 2.81 D
	Highest 7. D	Highest 4.5 D	Highest 6 D
	Lowest 1.25 D	Lowest 0 D	Lowest 1 D

* These records were taken from cases in the practice of H. Knapp of New York.

[Discussion next week with other papers of the symposium.]

PANCREATIC HEMORRHAGE.

WITH REPORT OF TWO CASES; AND A TABULATED LIST OF CASES FOUND IN LITERATURE—FORTY IN NUMBER.*

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I desire at the outset to give an abstract of the histories of two cases.

Case 1.—S. C. N., aged 28 years, single, a physician, was admitted to the Medico-Chirurgical Hospital, July 26, 1898. The family history revealed the fact that his father had died of pernicious anemia two years previously. All of the remaining members of his immediate family were living and healthy.

The patient had had some of the affections peculiar to childhood, and whooping-cough only two years prior to the onset of his last illness. The disease that caused his death began two months before the date of admission, with an acute onset. The patient first experienced a severe pain in the epigastric region, followed by slight diarrhea. In a few days the latter ceased, and was succeeded by obstinate constipation—a symptom that was present throughout the rest of the illness. Ten days after the date of onset jaundice set in, and gradually deepened until it became quite pronounced;

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the urine now became porter-colored, and the stools clay-colored.

This case had been treated as one of ordinary catarrhal jaundice up to the time when he entered the hospital. On admission, a duodenal ulcer was suspected to be a complication, on account of the marked pain, which would invariably develop two hours after the ingestion of food, even though the latter was of the lightest sort. (This symptom I had previously noted in cases of duodenal ulcer, in which the diagnosis was confirmed by necropsy.) The patient was kept in bed in the recumbent posture. On the morning of the second day of his stay in the hospital, he suddenly developed sharp abdominal pains, and, at the same time, grew weak and faint; his pulse was feeble, small and rapidly running, while the skin surface became cool, then cold and clammy. When I reached him, one hour after the onset of this sudden change, I found him in profound collapse—a condition obviously due to internal hemorrhage. One-half hour later he died.

The autopsy was made twelve hours after death. On opening the abdomen, the lesser peritoneal cavity was found to be filled with blood, and a large blood-clot was found external to but compressing the duodenum, in the vicinity of the head of the pancreas. The liver was engorged—enlarged—and the gall-bladder greatly distended with bile. The pancreas, duodenum and liver were placed in an appropriate solution for preservation, and only recently submitted to Prof. Joseph McFarland for examination. He reported as follows: "I have examined the specimens carefully, and find the lesions of primary carcinoma of the pancreas, with marked secondary involvement of the lymphatic glands about the hepatic duct and duodenum. I have been unable to locate definitely the source of the hemorrhage, but it is not from anything in the duodenum, and I suppose was caused by the changes produced by the neoplasm. In the wall of the duodenum there is a small rounded ulcer, the size of a very small pea, not descending below the mucosa, and certainly not the cause of the hemorrhage, which is altogether outside of the coats of the intestine."**

I am indebted to Dr. H. S. Anders, under whose care the patient was at the Samaritan Hospital, Philadelphia, for the following synopsis of a case of acute pancreatitis with fatal hemorrhage.

Case 2.—P. M., aged 28, was single, and an Irish horse-shoer of muscular build. No family history was obtainable. He had always been well until about two years previous to the present attack. At that time he was injured on the right side, by being jammed against a post by a horse he was shoeing. Since then violent exertion or scuffling has elicited pain in the side, deeply felt. He has been a very heavy beer drinker for years, and for several months troubled with much abdominal distress, several hours after eating, flatulence and irregularity of the bowels.

One week before admission into the Samaritan Hospital, he was taken suddenly with severe pain in the pit of the stomach, and nausea—no vomiting—lasting several hours. Anorexia, nausea, and some pain continued next day, with a feeling of heaviness, abdominal distension, and constipation. He kept about the house for several days and received no treatment. Three days before admission he was chilly, weak, and complained of hurried breathing. The next day he had an attack of syncope and exhaustion, accompanied wit acute abdominal pains, lasting about two hours, afte coming down stairs. From that time he grew gradually worse until brought to the hospital. His conditio on admission was one of absolute prostration and shock pale, cool, slightly moist skin; small, rapid, feebl pulse; anxious expression of countenance, with eye listless; abdomen rather full in the epigastrium, bu not locally or generally distended; great tenderness few inches below and to the left of the xiphoid, over a area about palm-sized, with intense exacerbations o pain now and then. He sank rapidly, and died of collapse in about two and a half hours after admission.

Ruptured gastric ulcer and acute intestinal obstruction being excluded, a diagnosis of hemorrhage wit probable pancreatitis was made; this was confirmed b necropsy. Nearly eight ounces of dark, clotted bloo surrounded the pancreas, lying particularly over th region of the left kidney and some fat layers of mesocolon in front. The pancreas, macroscopically, showe several pinhead to pea-sized hemorrhagic and absces like spots.

The specimen for section and staining, by inadver ence in not using sufficient alcohol, was spoiled.

In Case 1 it is probable that death was due to par creatic hemorrhage, and that the peritoneal coverin of the gland may have been ruptured. A point worth of especial note is the fact that carcinoma of the par creas may have an abrupt onset, marked by active sym toms, as in this case, with rapid course; I had fr quently noted a similar invasion in several cases carcinoma of the stomach. The carcinomatous growt of the pancreas had reached an advanced stage, althoug the man had been entirely healthy up to within a peri of two months of the date of admission to the hospita

In both of the cases herewith reported, abdomin pain was intense at the moment when signs of intern hemorrhage appeared; it was doubtless the pain peritonitis. When trivial hemorrhages occur, parti ularly into circumscribed portions of the gland, litt or no pain may supervene. Systemic collapse, as show by the cold, clammy extremities, pinched facies, feeb pulse, and marked dyspnea, characterized the occu rence of the hemorrhage, which led to a fatal termin tion in both cases, in $1\frac{1}{2}$ hours and two days respectiv ly. In patients previously free from symptoms, sudden onset, characterized by an intense, usually fixe epigastric pain, followed by the evidences of collaps are the symptoms of greatest diagnostic importance the apoplectic form of pancreatic hemorrhage.

It is well known that hemorrhages of the pancrea resulting from the hemorrhagic diatheses of certa infectious processes, as scurvy, purpura, and the lik may take the form of minute petechiæ, of extravas tions into circumscribed portions of the gland, or diffuse hemorrhagic infiltration. The majority of cas belonging to this class are of slight or insignifica clinical importance. Again it happens that the he orrhage spreads to points outside the boundaries of t organ; thus in one of the cases reported above t blood was found surrounding the pancreas, lying p ticularly over the region of the left kidney behi and the mesocolon in front, and in the other case filled the lesser peritoneal cavity, with slight infiltrati of the head of the gland. We must recognize a sym tomatic pancreatic hemorrhage which often forms terminal condition or event.

Symptomatic or secondary pancreatic hemorrhage dependent on a variety of primary affections of

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**Previous to the examination by Dr. Joseph McFarland, the specimen had been dissected by my colleague, Dr. W. E. Hughes, who also regarded it as carcinoma of the pancreas

land. Perhaps, the lesion most commonly associated
ith apoplexy of this gland is acute pancreatitis; it
as most probably present in one of the cases reported
bove.

An examination of the pathologic findings, a synopsis
f which may be found in the subjoined tabulated list
f cases, will show how conspicuous is acute pancreatitis
s an associated condition. In this connection two facts
hould be borne in remembrance: 1. That pancreatic
emorrhage may, in cases in which death is delayed
r two or more days, induce acute pancreatitis. 2.
hat the latter affection may exist without associated
emorrhage.

In the present state of our knowledge it is impossible
state in all cases, from the lesions found post-mortem,
hether acute pancreatitis has originated in an initial
emorrhage—give the presence of the evidences of
mewhat recent bleedings—or whether, on the other
and, the latter is secondary to acute inflammation of
e gland. In either case the hemorrhage may be re-
ponsible for the fatal termination, in the first instance
directly or remotely, while in the latter, directly or
mmediately.

True, acute pancreatitis, says Fitz[1], is an inflam-
iatory process affecting the interstitial tissue, both
brous and fatty. It seems to me neither feasible nor
dvisable to attempt to disassociate pancreatic hem-
rrhage and acute pancreatitis with fat necrosis, owing
their clinical and pathologic interdependence. Pan-
reatic hemorrhage may arise secondary not only to
cute pancreatitis, but also to lesions of a chronic char-
cter, particularly carcinoma of the organ.

An organ that maintains a fixed position in certain
ortions of the economy is subject to injury. For ex-
mple, the duodenum is liable to traumatic influences
rom an overdistended stomach or duodenum itself,
rom an overloaded colon, a motile kidney, straining
uscular movements, and external injuries. It is
robable, also, that the frequent modifications in the
astric and pancreatic secretions exert a traumatic ef-
ect from time to time. What is true of the duodenum
this respect is even more true of the pancreas. Car-
inoma of the duodenum may also terminate acutely
rom fatal hemorrhage in a manner similar to car-
inoma of the pancreas. Heulin[2] has examined the lit-
rature and found several cases that ended with violent
emorrhage.

Again, free and commonly fatal bleedings may occur
n an apparently healthy subject—idiopathic hemor-
hage. Fitz[3] states that there are a considerable num-
er of recorded cases which show that sudden and un-
xpected death may occur, and a conspicuous hemor-
hage be found in or near the pancreas as the sole sig-
ificant lesion.

Klob[4] found pancreatic hemorrhage in extreme portal
agnation only, and was led to the opinion that it not
arely occurred. Klebs[5] suggests that in cases in which
o inflammatory changes in the interstitial tissue is met
e hemorrhage may be due to corrosive action of the
ancreatic secretion.

Finally, it is difficult to comprehend the occurrence of
xtensive hemorrhagic extravasations in the pancreas
ithout distinct evidences of necrotic action from dis-
ase, corrosive action, as of the pancreatic secretion
self, or traumatism. In other words, it is a question
hether true spontaneous hemorrhage of the pancreas
ccurs, and a careful study of the pathologic findings
f all cases recorded in the literature (see table below)
strikingly confirmatory of this view. Doubtless, so-called spontaneous pancreatic hemorrhage would often be found to be dependent on latent pathologic processes of various kinds on post-mortem examination. At all events, "idiopathic" hemorrhage in the pancreas is of decidedly obscure causation. I would suggest that apparently spontaneous instances may sometimes be due to rupture of the organ—traumatism—in consequence of its fixed position, and its normally adherent peritoneal covering. These facts suggest the possibility of successful operative intervention in suspected cases of pancreatic hemorrhage in which neither local nor general previous conditions proscribe exploratory celiotomy. A number of instances of pancreatic hemorrhage associated with non-carcinomatous lesions of the gland of a chronic nature have been recorded. Anger[6], Kuster[7], Kocher[8], Hagenbach[9], Steele[10] and others have recorded cases in which bleedings into the contents of pancreatic cysts occurred.

Among predisposing factors are sex and age—males, after the middle period of life, and the alcoholic habit. I have been able to collect 40 cases of pancreatic hemorrhage—given below in tabular form. Of these, 25 were males and 9 females, while in the remainder the sex was not given. The ages of 30 of the patients was stated; they ranged from 26 to 70 years; and 13 of the 30, or about 43.3 per cent., occurred in patients over 45 years of age. Of the remaining 17 cases, 3 were 28 years of age, 2 were 30 years, and 3 the age of 31, while the youngest was only 26. There was a history of chronic alcoholism in 12 cases, or about 30 per cent. But since special reference to this habit is made in only 18 cases, the percentage is much higher, or about 66.6 per cent. It is currently stated that a rich diet also engenders predisposition to pancreatic apoplexy, presumably by impairing the histologic integrity of the vascular walls, especially in an atheromatous subject.

From personal experience, and an examination of the literature, the belief that pancreatic hemorrhage, particularly as an immediate cause of death, is of greater clinical and medicolegal importance than has hitherto been supposed well founded. It must be confessed, however, that the condition is comparatively infrequent, although not by any means a curio among clinical and pathologic findings. According to Draper, who met with 19 cases of pancreatic hemorrhage in 4000 autopsies, the condition is rare; in 9 or 10 of this series it was the sole discoverable cause of death. Cases are also recorded in which persons had been found dead, or died from extensive hemorrhagic extravasations in the pancreas or surrounding tissues or cavities before medical aid could be summoned. On the other hand, the immediate effects of the bleeding may be survived, and death occur at a later period in consequence of shock and increasing anemia.

As Prince[11] suggests, one of the most interesting questions connected with the subject is the direct cause of death in those cases that have ended suddenly. Thus in Case 2, in which the loss of blood amounted only to eight ounces, the hemorrhage in itself was not sufficient in quantity to be fatal, yet death ensued within twenty-four hours. Without stopping to adduce all the theories that have been advanced in the past to explain the cause of sudden death in these cases, I may mention a few: Friedreich attributed it to reflex paralysis of the heart, due to pressure on the semilunar ganglion from the sudden enlarged pancreas; Zenker believed that venous congestion of the semilunar ganglion, without alteration of the ganglion cells, causes death by reflex paralysis of the heart, as in Goltz' experiment of tap-

No. of cas.	Author.	Date and where reported.	Causes and primary disease.	Clinical picture.	Morbid anatomy.	When death occurred.
1	Zenker	Verhandlungen der Phys. Med. Soc., July, 1874.	Man, unknown age, though old. No previous history, though well the same day.	Found dead in a river. No history.	Fatty degeneration and infiltration (hemorrhagic) of the pancreas and high grade hyperemia of the semilunar ganglion.	Unknown.
2	Zenker . . .	Deutsche Zeitschrift fur Prakt. Med., Oct. 10, 1874.	Male, age 48, fat person. No antemortem diagnosis.	Sudden onset with indisposition, slight vomiting, tenesmus without a stool, followed by almost instantaneous death.	A small cardiac aneurysm (not ruptured); the duodenum filled with bloody mucus; the pancreas throughout intensely stained from hemorrhagic infiltration; fatty infiltration at a single small point.	Almost immediately.
3	Zenker	Deutsche Zeitschrift fur Prakt. Med., Oct. 10, 1874.	Strong man, age 28. No history. Fat person, an epileptic.	Found dead in the woods.	No brain lesions; pancreas, state of hemorrhagic infiltration; macroscopically, fatty degeneration of the pancreas of mild grade.	Seen in good health one hour previously to being found dead.
4	W. F. Whitney .	Bost. Med. and Surg Jour., 1881, vol. cv, p. 593.	Healthy male.	Similar to above.	Pancreas 20 cm. long. Dark red. Interlobular tissue of an opaque white. A small nodule about 5 cm. in diameter. Some similar nodules were found near head. Microscopically, found these changes due to pressure from effused blood.	In 54 hours.
5	F. W. Draper. .	Bost. Med. and Surg. Jour., 1880, p. 615.	Alcoholic, but healthy, except a cold for two weeks. No describable cause. Male, age 31.	Sudden pain in abdomen. Nausea and desire to vomit, but could not.	Left ventricle dilated. Old endocarditis. Pancreas normal as to size, and blood was infiltrated into retro-peritoneal tissue; also around the organ and colored it dark. Splenic artery, large and tortuous; its interior rough and granular. Microscopic. Interlobular infiltration of pancreas with blood; it had permeated amongst the cells, here the corpuscles were destroyed,	Died in carriage on way to hospital.
6	F. W. Draper. .	Bost. Med. and Surg. Jour., 1886, cxv, p. 339, (5 cases).	Not an alcoholic.	Found dead in room. Previously in good health.	Heart, lungs and abdominal viscera normal. Extravasation of blood into the retroperitoneal tissue around pancreas for area size of hand. Organ was infiltrated, mostly at center and tail. The outer third of organ was very soft. Splenic artery large and tortuous. Brain normal.	
7	F. W. Draper. .	Bost. Med. and Surg. Jour., 1886, vol. cxv, p. 339.	Male, exemplary habits. Age 55 years. Previously in good health.	Seized by cramp in stomach at 10 A.M., left work and went to room. Found dead at early evening.	Viscera negative. Retroperitoneal tissue filled by blood; blood extends for two inches from pancreas. Pancreas larger than normal, and equally infiltrated with recently effused blood most marked in center.	Within eight and one-half hours.
8	F. W. Draper. .	Bost. Med. and Surg. Jour., 1886, vol. cxv, p. 339.	Female, age 26, alcoholic. Very fat.	Kick in abdomen a week before death. Twenty-four hours before death went to bed with intense pain in abdomen. Spat up blood; tried to vomit; 14 hours later found pulseless (shock).	Bronchial mucous membrane dark red color. Trachea contained frothy blood. Abdominal cavity —22 ounces of red fluid. Everywhere the subperitoneal tissue was infiltrated with blood. Hemorrhage was most marked at middle and tail of pancreas. Organ soft. No peritonitis.	Died in 24 hours.
9	F. W Draper. .	Bost. Med. and Surg. Jour., 1886, vol. cxv, p. 339.	Female, age 44. Used beer daily (not to excess). Healthy.	Went to bed with headache. Found dead a few hours later.	A depression in the peritoneum contained 8 ounces of red fluid. Spleen red and soft. Cardiac end of stomach was reddened. Pathology. Pancreas was infiltrated with blood throughout, but more pronounced at splenic end. Some blood effused into the retroperitoneal tissue. Section interlobular infiltration only.	
10	F. W. Draper. .	Bost. Med. and Surg. Jour., 1886, p. 339.	Good health. Age 31.	Cramp occurred after heavy meal. Nausea, but could not vomit.	Viscera fairly normal. Pancreas and retro-peritoneal tissue infiltrated with blood. No free clot at any point. Involved two-thirds of organ, and one inch above and below pancreas are infiltrated with blood.	Died in a few minutes.
11	Wm. Russell & R. F. C. Leith.	Edinb. Hosp. Report, 1896, vol. iv, p. 124.	Not stated.	History of sharp pain in abdomen. Some days later severe pain in abdomen, vomiting, chills and soon collapse.	Pancreas dark, sloughing mass. Not a trace of the gland structure could be made out. It was impossible to find where artery ruptured.	Died in a few hours after 2d attack of pain and collapse.
12	Robert Muir . .	Edinb. Hosp. Reports, 1896, vol. iv, p. 141.	A male, age 54, slight tendency to fatness. Well until day previous to death.	The day before his death was seized with a sudden attack of severe epigastric pain, followed by collapse.	The head of the pancreas was enlarged and firm; an excess of fat around it. Pale patches scattered through the gland, or necrosis. Hemorrhages in surrounding tissues, especially beneath the gland, the region having a dark purple-red color.	Duration of acute symptoms one day.
13	Oscar Kollmann.	Aertzl. int.—B 1, Munchen, 1880, xxvii, p. 427.	Stout person, female. Had had mitral stenosis and left sided pleuritic effusion.	For long period at intervals had abdominal pain, but continued work. On the night of Nov. 12, 1878, after meal, developed dyspnea, restlessness, chills. Sat up most of the night, and Nov. 13, after breakfast, lay herself back on the pillow and instantly expired.	Pancreas excessively hyperemic, and blood in retroperitoneal space; the cauda pancreas also hyperemic, and the seat of hemorrhagic infiltration. The mucous membrane of the intestinal canal healthy. No appearance of fatty degeneration of pancreas.	Within 24 hours.
14	F. W. Draper. .	Trans. Ass'n Am. Phys., i, p. 143, 1886.	Male, age 45. Strong, rugged. Drunk at long intervals.	Found dead in a chair, as if asleep. Seen well within 48 hours.	Pancreas infiltrated with and surrounded by extravasated blood.	Seen well 48 hours before
15	I. Spies	Schmidt's Jahrb., cxxxiv, 1867, p. 270.	Male, adult.	Sudden death.	Extensive interlobular, pancreatic hemorrhage, and considerable hemorrhage behind the pancreas and spleen, between the peritoneum and abdominal wall.	
16	Klebs	Handbuch der Path. Anat., pp. 1, 2, 555, 1870	Not stated.	Unexpected death.	Extravasation of fresh blood in the pancreas; no interstitial inflammatory changes; no thrombosis of large vessels near pancreas.	
17	Maynard and Fitz	Ms. Notes, v., p. 26, 1875.	Female, adult. In usual health.	Sudden pain in lower chest. Hurried respiration, feeble pulse.	Thin, flaccid pancreas, with slight, subperitoneal and intra-glandular hemorrhages. Cut surface dotted with white specks. Extensive fatty degeneration of gland-cells. Fat-crystals and blood-crystals. Nothing abnormal in celiac plexus.	In a half hour
18	Gerhardt	V. Kollmann, loc. cit.	Female, age 47. Bronchial catarrh, emphysema, anasarca, ascites, albuminuria, cyanosis.	Died in collapse.	Inconsiderable interlobular pancreatic hemorrhage. Tissue behind pancreas, as far as the spleen, infiltrated with blood. Duodenal mucous membrane almost black, and peritoneum over its convexity infiltrated with blood. Ecchymosis in mucous membrane of cecum.	Not stated.

Author.	Date and where reported.	Causes and primary disease.	Clinical picture.	Morbid Anatomy.	When death occurred.
Reynolds and Gannett.	Bost. Med. and Surg. Jour., cxii, 1885, p. 275.	Male, age 66. Abundant fat tissue.	Sufferered from epigastric pain and constipation. Felt better on the next day, but in the evening found pulseless and collapsed.	Pancreas enlarged one-half. Consistency diminished. Cut surface reddish black from much extravasated blood nearly uniformly distributed. Blood-vessels and pancreatic duct unaltered.	Within 36 hours from the attacks of pain.
Le Fleur .	Medical News, 1888, liii, p. 80.	Male, age 50. Obcure dyspepsia for several years.	Severe epigastric pain, vomiting, collapse.	Pancreas doubled in size, dark red, firm. The cut surface mottled with capillary hemorrhage, separated by a grayish-red, translucent material. Fatty degenerated tubules and acini. Cellular tissue around pancreas blood-stained.	Death in 24 hours.
Driver and Holt.	Ms. Notes, v., p. 52, 1888.	Male, age 58. At a dinner party before his death. Thin person.	Awoke at 2 A.M with severe abdominal pain, nausea, weak pulse, and prostration. Speedy vomiting and collapse.	Duodenal half of the pancreas infiltrated with blood. Each side of the heart contained a little fluid blood.	Within one-half hour.
Williams	Ms. Notes, v., p. 55, 1888.	Male, age 70. Thin; temperate. Always well.	Sudden epigastric pain, vomiting, weak pulse, slight epigastric swelling; collapse in a few hours.	Tail of pancreas infiltrated with blood. Slight mesenteric hemorrhage. No evidence of peritonitis.	In 16 hours.
G. H. Weaver .	Medicine, Nov. 1897.	A healthy man 31 years of age. Thought to be syphilitic. Used beer, though not excessively.	Was suddenly taken with a severe pain behind the middle of the sternum, radiating to the shoulders and arms. No relief. The patient became weaker until he died.	Marked hemorrhage into the pancreas, and in its neighborhood; marked sclerosis of the arteries of the pancreas, kidney and liver. Coronaries and the aorta not atheromatous.	In 12 hours.
Dieckhoff .	Festschrift gewidmet Theo Theirfelder, Leipzig, 1895.	Male, age 63 years. No cause.	No definite symptoms, though great loss of power and bedridden. Seems to have died of retention of urine, due to chronic enlargement of the prostate. after 3 days' illness.	Considerable blood in the peritoneal cavity; hemorrhage into the pancreas with destruction of pancrecreatic tissue (areas of fat necrosis).	Three days; hemorrhage probably a terminal symptom.
Dieckhoff . . .	Festschrift gewidmet Theo. Theirfelder, Leipzig, 1895.	Middle aged woman, giving a history of diabetes extending over a period of years.	For 4 weeks before death fuffered from severe pains in the abdomen; otherwise negative.	Peritoneal cavity contained blood, hemorrhage into the pancreas and areas of fat necrosis.	Hemorrhage a terminal symptom.
Prince	Bost. Med. and Surg. Jour., July 13, 1882.	Woman, age 65. Intemperate. The day before had fallen down stairs, but afterward went to work.	Body found dead in the morning by patient's bed-fellow, lying on her right side on the floor.	Sub-peritoneal tissues adjacent to organ infiltrated with recently effused blood; gland showed marked hemorrhagic infiltration throughout, but mostly at its head.	Must have been suddenly.
Hlava	Gaz. Hebdom. de Med. et de Chir. n. s., vol. ii, 1897.	Age 35. Previous tuberculosis of larynx and lungs.	Symptoms of gastro-intestinal catarrh.	Pancreatic and peri-pancreatic hemorrhage.	Not stated.
Hlava	Gaz. Hebdom. de Med. et de Chir. n. s., vol. ii, 1897.	Age 36. Negative.	Symptoms pointed to hemorrhage into peritoneum.	Marked pancreatic hemorrhage with fat-necrosis of pancreas, mesentery and meso-colon.	Not stated.
J. M. Anders .	In this paper.	Male, age 28. Temperate habits. For two months prior manifested symptoms and course of duodenal catarrh, pain two hours after meals of the blandest sort and intense jaundice.	Sudden Collapse.	Recorded above.	In 1½ hours.
H. S. Anders	In this paper.	Male, age 28. Heavy drinker. Injured on right side by being jammed against post by a horse. For months troubled with much abdominal distress several hrs. after eating.	(See ante.)	Recorded above.	Within 2 days
Oppolzer	Allg. Wien. Med. Zeit., 1858, xlv Mediz. Neuigk. 1859, ix, 105. Wiener Med. Woch., 1868, vii, 7.	Male. adult, young, Strong.	Sudden cardialgia, without known cause, becoming violent on strong epigastric pressure. Constant bilious vomiting, obstinate constipation. High fever, quick, pulse, collapse. No evidence of poisoning. Diagnosis, perforating gastric ulcer.	Pancreas at least doubled in size, dark-red. Hemorrhage between the lobules, and much extravasated blood in the vicinity of the pancreas, between the mesenteric folds.	In 3 days or more.
Hilty	Corresp. Bl. f. Schweiz Aerzte., 1877, vii, 666.	Male, age 30. Strongly built, fat, looked fond of spirits. In past few years frequent palpitation and occasional dyspnea.	Sudden abdominal fulness and tension attributed to new beer. Anxious, restless. Feeble pulse, rapid breathing, cold sweat, sub-normal temperature; abdominal pain; distended, tympanitic upper abdomen; nausea; collapse 2d day; spontaneous dejection; violent delirium. Diagnosis, peritonitis from perforation.	Pancreas doubled in size, firm, dark-violet. Extensive interlobular hemorrhagic infiltration. In the head many nodular hemorrhages as large as cherry-stones, marked bloody infiltration of the peri-pancreatic tissue.	Death in 36 hours.

No. of case.	Author.	Date and where reported.	Causes and primary disease.	Clinical picture.	Morbid Anatomy.	When death occurred.
33	G. P. Biggs	Proceedings of N. Y. Path. Soc., Jan. 8, 1890, p. 107.	Male, unknown age. Alcoholic.	Had gone into a saloon and taken a few glasses of beer, then went outside and fell down on the sidewalk dead.	At the time autopsy was performed there was considerable decomposition present, and nothing could be found except a hemorrhage around the pancreas and a number of minute hemorrhages within the organ. Not much could be determined concerning the changes in the pancreas because of the degree of decomposition present. "The case was one of sudden death due to pancreatic hemorrhage."	Instantly.
34	G. P. Biggs	Proc of N. Y. Path. Soc. Jan. 11, 1893.	German laborer, age 32. Had been in good health, although a heavy drinker. Had been drinking heavily for two days.	Taken suddenly with intense pain in right side at junction of right inguinal and lumbar region. Soon after began to vomit. When admitted complained of pain in epigastric region. Pulse slow; tem. 100. Palpation reveal'd nothing. Pulse soon became rapid and feeble; vomiting bile frequent; tossed in bed holding hand over site of pain.	Nothing found in the organs except changes due to alcoholism—fatty liver and a moderate amount of chronic nephritis. Intestines filled with a large quantity of mucus, which contained the usual amount of bile. The pancreas was enlarged to three or four times its normal dimensions. The entire organ of a reddish-brown color, and to the naked eye presented no trace of pancreatic tissue, looking like one firm clot. Scattered through this mass were very dark spots, probably the site of older hemorrhages. The layers of fat between the latter and the mesentery also extensively infiltrated with very dark blood.	Death occurred 24 hours after onset of the pain.
35	Biggs	Proc. of N. Y. Path. Soc., Jan. 11, 1893.	German laborer, age 45 yrs. Very intemperate.	Two days before his death there was a gradual development of dyspnea and pain in epigastrium. There was vomiting. Very severe dyspnea was the most marked symptom.	Pancreas considerably increased in size. The entire organ was of a brownish-black color. Extensive infiltration of the dark blood into the surrounding tissue; behind the peritoneum, between the tail of the pancreas and the diaphragm, there were about 1½ pints of fluid blood. Some of the hemorrhage seemed to be old, as the sections under the microscope showed considerable black pigment; extensive destruction of the pancreatic tissue, and extensive fatty change in the portion still remaining also noted.	Died within 48 hours.
36	H. D. Rolleston.	Trans. Path. Soc. of London, vol. xliv, 1893, p. 74.	Male, age 30. Year and a half ago cart passed over his abdomen, but he apparently was not much injured. Except for occasional attacks of abdominal pain, had been entirely healthy.	After dinner was seized with sudden abdominal pain and severe vomiting; the bowels acted once after the onset; after that no feces or flatus passed; was very collapsed. Laparotomy was decided on and the abdomen opened.	Areas of fat necrosis scattered over the peritoneum. The spots were especially numerous near the pancreas. The pancreas weighed 7 ounces; there was recent hemorrhage around it, apparently spreading from the region of the pancreatico-duodenal arteries, it passed over the entire surface of the organ as far as the spleen. The substance of the organ was firm and to the naked eye normal. The most probable origin of the hemorrhage seemed to be the rupture of a small aneurysm on pancreatico-duodenal arteries. Microscopic examination of pancreas showed qnite recent hemorrhage passing for a short distance between lobules. There was no sign of old extravasations into the pancreas. "This seemed to be then a case of pancreatic hemorrhage and not of hemorrhagic pancreatitis."	Not stated.
37	Frerichs	Klinik der Leberkrankh., 1861, ii, 382.	Male, age 41. Given to brandy drinking. Suffered for long time from disturb'd digestion. Gastric cramps; diarrhea and repeated jaundice.	During an attack of cramp felt the sensation of tearing in upper abdomen and the outpouring of a fluid. Became feeble and fainted. The next day there was complaint of pain in ileo-cecal regions. Intelligence was clear, but patient collapsed. The abdomen was swollen and tense.	The pancreas was found to be large and flabby. On section a network of broad and narrow whitish-yellow streaks was seen, which were chiefly composed of fat drops snd granules. In the head of the pancreas was a puriform focus of the same nature, near which was a small vein opening into the vena portæ, closed by a red clot. Large masses of clotted blood were in the vicinity. The duct of Wirsung was covered with a soft fat layer. There was extensive hemorrhage, the source of which could not be found, of partly clotted, partly fluid blood. forming a reddish-brown tumor below the liver and reaching from the gall-bladder to the spleen. The blood was extravasated between the layers of the small omentum, hepatoduodenal and gastrosplenic ligaments and transverse mesocolon. It extended downward to the kidneys and along the pancreas from the portal vein to the spleen.	Died within 6 hours.
38	F. A. Harris.	Bost. Med. and Surg. Jour., 1889, p. 606. vol. 2.	Female, age 35; occupation, domestic. Alcoholic.	At noon was seen in good health, apparently. Late in the afternoon was seen to sit down in a doorway; complained of feeling ill generally; no distinct symptoms. Fell on street about 6 P.M. Died on way to hosp.	Autopsy showed pancreatic hemorrhage. There was hemorrhage into the splenic end of the pancreas, the whole of this third of the organ being infiltrated with blood, which was easily expressed on section. There was a small amount of blood effused into the subperitoneal tissue, extending nearly to the supra-renal capsule. The whole amount of blood was apparently not more than a dram and a half, by estimate. In gross, the pancreas presented otherwise nothing unusual.	In a few hou
39	H. P. Hawkins.	Lancet, 1893, vol. ii, p. 358.	Male, age 40. Had had typhoid fever 10 years before, and one attack of either rheumatism or gout. Was alcoholic.	Took two liver pills for slight intestin'l trouble; next morning bowels acted; sick after breakfast; most acute pain in abdomen. On admission pale, cold, collapsed; severe pain across middle of abdomen and at corresponding point in back. Abdomen distended. Next day 7 stools, mucus and blood. Pain and collapse contin'd. In evening found dead in bed.	The peritoneal cavity contained about a pint of bloody fluid. The pancreas was six inches long, greatly increased in bulk and weighed rather more than 12 ounces. At the head of the gland its structure could not be recognized; it was black with infiltrated blood. This condition became less intense toward the tail. the interlobular septa were infiltrated with blood. There was very extensive hemorrhage under the peritoneum. There was fluid blood around each kidney, and on the front of each psoas, but the greatest amount of extravasation occurred around the pancreas, and retro-peritoneal blood had traveled from a spot in the head of the pancreas. The liver was fatty, absence of arterial disease. Spots of fat necrosis of the pancreas.	Death wit 48 hours time of on
40	J. Wigglesworth.	Liverpool Med. Chir. Jour., xviii, 1898, p. 220.	Female, obese; age 37. A general paralytic.	Vomiting rather suddenly set in, which gradually became urgent, and the only action of the bowels that was obtained was by means of enemata; there was great distension of abdomen, collapse rapidly set in, and she died three days after the onset of the vomiting.	The pancreas is somewhat enlarged, particularly central third, diminished in consistency, and markedly reddened. Along the periphery of the organ are distinct hemorrhagic areas, about 1 cm. in diameter; most marked toward the head. Microscopically, the cells of the acini do not present any definite departure from health; in places they appear somewhat flattened. There is an abundant fibrinous exudation, with numerous red blood corpuscles. The morbid change appears to have been a sanguineous effusion, possibly of inflammatory origin, beneath the capsule which has forced itself way down the trabeculæ between the acini. The distinct hemorrhagic areas referred to above contain ordinary black blood clot. In the omental fat around the pancreas were numerous hemorrhages; and patches 1 to 2 inches in diameter, areas of fat necrosis.	Died with hours.

ping on the abdomen of the frog. Perhaps the best explanation is furnished by the state called "shock," using the term, as Prince[12] suggests, to denote " a sudden and profound depression or inhibition of the nervous centers, as a reflex result of so sudden and extensive injury to the pancreas itself, without requiring the mediation of the semilunar ganglion."

I have appended below a tabulated list of the cases hitherto reported; its careful study will serve to emphasize the importance of the subject of pancreatic hemorrhage, both from a clinical and a medicolegal viewpoint. I have endeavored to exclude those cases of acute pancreatitis and other morbid states in which there was only slight hemorrhagic infiltration occurring as a symptom. Oppositely, I have selected those cases in which the symptoms pointed to marked or fatal internal hemorrhage suddenly developed and the hemorrhage was confirmed by necropsy. The cases previously reported in a classic article by Dr. R. H. Fitz[13], 16 in number, are included in the subjoined table. Draper[14] had previously reported a series of cases of sudden death from pancreatic hemorrhage, of which six are also embraced in my table. There are to be found in the literature a large number of cases which I omitted, concerning which, however, there is room for a difference of opinion as to the cause of death, for the reason that all other obvious direct causes of death could not be reliably excluded. Judged by this test, few if any of the cases narrated in my table will be regarded as doubtful instances of pancreatic hemorrhage. It will be observed, also, that while most cases terminate quite acutely or even suddenly, others in which a fatal ending is attributable to pancreatic hemorrhage reached death more gradually, interrupted even by remitting periods.

BIBLIOGRAPHY.

1. Med Record, Feb. 23, 1889, p. 201.
2. Gaz. hebdom. de Med. et de Chir., Feb. 13, 1898; These de Paris, 1897.
3. Loc. cit., p. 199.
4. Oesterreich Zeitschr. f. pr. Heilkde, 1860, v., 529.
5. Handb. d. path. Anatomie, 1876.
6. Bull. Soc. Anat. de Paris, 1865, xl., 92.
7. Berliner Klin. Woch., 1897, ix., 154.
8. Correspbl. f. Schweizer Aerzte, 1888, 279; British Med. Jour., 1888, 1, 1297.
9. Deutsche Zeitschr. f. Chir., 1888, xxvii, 110.
10. Chicago Med. Jour. and Examiner, 1888, lvi, 205.
11. Boston Med. and Surg. Jour., July 20, 1882.
12. Loc cit., p. 57.
13. Med. Record, Feb. 23, 1889.
14. Trans. Ass'n. Am. Phys., l, p. 143, 1886; Boston Med. and Surg. Jour., 1886, cxv, p. 339.

A STUDY OF CODEIN AND ITS SALTS.*

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Codein has been employed since its discovery in 1832 for various affections accompanied by pain, as a substitute for morphin, which had been in use for seventeen years before the above date. The drug has gained a prominence not hitherto accorded it, with the appearance of epidemic influenza and its sequelæ throughout this country during the severe winter just past.

Codein is administered alone or as one of its salts. It forms combinations with the mineral and organic acids, which are much more soluble than the alkaloid itself. The *acetate, citrate, hydrobromate, hydrochlorate, hydroiodate, nitrate* and *sulphate* have physical and therapeutic properties in common and are soluble in from five to twenty parts of cold water, more so in hot water, from which they recrystallize to a certain extent on cooling. The *phosphate* is a white crystalline powder, soluble in four parts of cold water, and is especially suited for hypodermic use, as it is less irritating than any of the other salts. It is largely employed in this form in continental Europe. The *salicylate* is said to possess, besides analgesic, antirheumatic properties while the *valerianate* is especially beneficial in nervous troubles. All the salts of codein are subject to the general rules of incompatibility.

Kunkel[1] found, in his experiments on dogs and guinea-pigs, that codein has a powerfully irritating effect, producing convulsions in the extremities and the muscles of the neck, and where death results, it is due to its influence on the cerebellum and medulla oblongata. It acts on the circulatory apparatus, inflames the parts with which it comes into immediate contact, and its effect is greater when taken up by the cellular tissues than when absorbed through the stomach.

There are many contradictory reports regarding the action of this drug. Thus Hagen[2] states that it checks the urinary secretion, while most observers hold that it increases the amount of urine. Again, most writers speak of its advantage in not causing gastric disturbances, but its administration has been repeatedly followed by such excessive nausea and vomiting that it had to be altogether discontinued, as even a greatly diminished dose had the same effect as a larger one. These effects on the stomach are rarely seen when the drug is given in combination with one of the coal-tar preparations, such as acetanilid, probably due to the controlling influence of the latter on the cerebral centers.

Kersch[3], in experimenting on dogs and cats, confirms the observations of Trousseau that the first effect of codein is paralysis of the hinder limbs and contraction of the pupils. Another characteristic symptom in animals is the frequent micturition, setting in as early as one hour after the injection of the drug in poisonous doses, whereas morphin causes retention of urine. Quite different was the action of the heart. In codeinized, deeply comatose animals, the pulse and respiration were accelerated, while the reverse was the case in morphinized animals. This acceleration occurred only in those animals having received a lethal dose and shortly before death, a symptom of paralysis of the vasomotor centers.

Reiner[4], quoting Schröder, states that the physiologic action of codein in small, narcotic doses on the intestinal canal is to reduce peristaltic action; large, poisonous doses produce bloody diarrhea. This does not apply to the human being, as therapeutic doses are never followed by constipation, nor is the appetite diminished, as is the case with morphin.

With regard to the pupils, in therapeutic doses, no especial changes take place, but in toxic doses considerable dilatation is present. Locally, neither codein nor morphin produces mydriasis, so that the dilatation is a secondary phenomenon, in contradistinction to such substances as atropin and hyoscin, which act directly on the pupils. The blood-pressure is not influenced by codein, the pulse but slightly and respiration is slowed at first in toxic doses, and later returns to normal or above it.

THERAPEUTICS.

Cohen[5] thinks the dose as given in most text-books is too large. While the drug may safely be given, if necessary, in doses of from 2 to 6 grains, on the basis that its narcotic power is but one-fourth that of morphin, yet, in medicinal usage, its dose need not ordinarily be greater than would be the dose of morphin in the same conditions, and he frequently gives 1-16 grain and rarely exceeds ½ grain. It should, however, be repeated much more frequently than would be safe with morphin, and one advantage over the latter is the safety of frequent repetition. The greatest advantage of codein over morphin, however, is that it is less likely to create a morbid drug habit, and that in the unfortunate cases in which its long and continued use becomes necessary, it does not cause the distressing results that a similar use of morphin often entails. As compared with morphin, the sedative and hypnotic effects are greater, its anodyne and narcotic effects less. In addition it appears to have a special influence on inflammation of the serous membranes and thus to be useful in checking the spread of pleuritis and peritonitis. On the normal secretions its effects are less marked than those of morphin, and in moderate doses, constipation, dryness of the throat, diminution of urine and of perspiration are not usually produced.

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In epidemic bronchitis it is a valuable remedy for the relief of the harassing pain of the cough, and when combined with one of the coal-tar antipyretics, the analgesic effects become more pronounced. It is a favorite drug in the cough of phthisis and chronic bronchitis, and its sedative influence is highly satisfactory, clinical data having shown it to be the best succedaneum for opium. Another advantage of codein over morphin, one of special value in bronchial catarrh, is that the patients not only cough less but also expectorate more easily than on morphin. The cough-dispelling power of codein is such as to make it indispensable in phthisic patients, and a point of great importance in these cases is that it does not impair the appetite or digestion, and can therefore be used uninterruptedly for months.

That codein has the power of diminishing the excretion of sugar in cases of diabetes mellitus is shown by the leading authorities, who recommend it as the only drug in the medicinal treatment of that disease. Thus Tyson[6] gives it in doses of ¼ gr. each day. Hare[7] recommends it in ascending doses beginning with from 1 to 5 gr. thrice a day. Wood and Fitz[8] order it in ½ gr. doses three times a day to be rapidly increased until 30 or 40 gr. are daken *per diem.* Anders[9] gives codein sulphate in increasing doses, commencing with ¼ gr. three times daily, and augmenting the dose by ¼ gr. every second day, until 2 gr. are taken three times a day. Osler[10] gives ½ gr. three times daily, which may be gradually increased to 6 or 8 gr. in twenty-four hours. Strümpell[11] differs from most observers in regard to the action of this drug. He says, "it is a noteworthy fact that the alkaloids of opium, such as morphin and codein, possess much less value than opium itself in the treatment of diabetes mellitus."

Lauder-Brunton[12] was the first to use codein in abdominal pains, following the investigations of Barbier and Berthe, who showed that it exerts a specific action on the sympathetic nerve. He found it relieved the violent pains in a case of perityphlitis in 1-gr. doses; in another of abdominal tumor, 1½ gr. of the drug, and in a third case, one of fecal impaction, 1 gr. sufficed to relieve the pains without disturbing the function of the intestines. He also employed it successfully for the pains from carcinoma of the liver and pancreas. More recently, Slaughter[13] gives preference to codein to relieve the pains in appendicitis. Freund[14] used it in diseases of women and found that pain of uterine origin, whether accompanying dysmenorrhea, acute or chronic diseases, can be temporarily relieved, but never to such an extent as with morphin or opium. In cases of abundant exudation in the pelvic peritoneum and connective tissue, codein was not very successful; furthermore, the drug can not be recommended as an anodyne in tubal disease. On the other hand, codein has a great and usually very prompt influence on pain proceeding from the ovaries, such as due to displacement or prolapse, oöphoritis, acute or chronic perioöphoritis and ovarian neuralgia; the pains invariably diminish even after small doses and in most cases disappear entirely as long as the action of the drug continues.

As a sedative in the insane, Dornblüth[15] gave it internally in 448 cases, and codein phosphate hypodermically in 34 cases. In all but 2 of the cases it quieted the patients in from three to twelve hours. The doses were gauged according to the degree of excitation present. In maniac conditions it has a weaker action than hyoscin, but he prefers it when the latter causes hallucinations. It was found very useful in all cases where anxiety, precordial distress and insomnia were present.

Codein as a sedative and anodyne is more useful and appropriate than morphin or opium, where a mild effect is desired. In the treatment of the morphin habit, Schmidt[16] employed injections of a 10 per cent. solution of the phosphate. It moderates the symptoms attending the withdrawal of morphin, even to the point of tolerance; it does not prolong the duration of the treatment, causes the morphin craving to vanish permanently, and disagreeable collateral effects, which develop with the increase in dose, prevent the abuse of this narcotic as a remedy. Professor Rosenthal[17] of Vienna also uses the hydrochlorate for this purpose, giving 1-3 to ½ gr. and, separately, 30 to 45 gr. of sodium bromid in solution as an adjuvant.

TOXICOLOGY.

Codein does not cause chronic poisoning, as it has no cumulative effect. Although it possesses decided toxic properties, cases of poisoning from the drug are rare, which may be explained by the greater cost as compared to morphin, opium, or the preparations containing these, and by reason that it is not generally known to the laity, even by name. The following cases are reported in the literature on the subject, most of them presenting severe symptoms, but all terminating in recovery:

Case 1.—Myrtle[18] reports a diabetic patient who became greatly depressed on account of the death within a short interval of each other, of his mother and brother, and who also had glycosuria. He took a pill containing 4 gr. of codein and 1-20 gr. of strychnin, and soon after had a severe attack of vertigo, collapse and contracted pupils. The latter as well as the admixture of strychnin make the genesis of the intoxication somewhat doubtful.

Case 2.—Ambroso[19] reports a child 2 years old with the following symptoms: Cadaveric appearance, cool extremities, pulse and heart-beat could not be felt; abdomen distended by meteorisms; pupils widely dilated; secretions arrested. He had taken 1 gram of codein in 150 c.c. mistura gummosa and 30 c.c. syrupus ipecacuanhae within the course of a few hours. Treatment was as for opium poisoning.

Case 3.—Walsh's[20] patient, 21 years old, and in the advanced stages of phthisis, with suicidal intent, swallowed a quantity of cough mixture containing codein, of which he took about 8 gr. Much of this was probably vomited, as it was taken on an empty stomach,

t for the same reason a great deal must have been
sorbed in the interval of a quarter of an hour that
psed before emetics could be made to act. The most
teworthy symptoms seem to have been the intense
itation of the sensory nerve endings and altered
od-pressure. Possibly many of the manifestations
re marked or modified by the phthisical condition.

Case 4.—Mettenheimer[21] reports that an elderly woman
fering from bronchitis was ordered pills of codein, ½
every three hours. She took four pills at one dose.
olent vomiting set in with abdominal pain, no action
m bowels, suppression of urine; great somnolence
t no deep sleep; pupils contracted, pulse and respira-
n accelerated, but this may have been due to fear
d excitement. The myosis continued for several
ys with complete anorexia and abnormal sensitiveness
the abdomen. Urinary secretion was re-established
er twenty-six hours, and somnolence disappeared on
third day. The vomiting was evidently due to
ebral irritation, as the tongue remained clean during
period of loss of appetite.

Case 5.—Béla Medvai[22] cited the case of a female
d 72 years, who took twenty-five pills containing
0 grams (7½ gr.) of codein with suicidal intent.
lf an hour later she experienced a sense of warmth,
tigo and suffocation; semiconscious and somnolent;
sed about in a restless manner and scratched every
t of the body; skin scarlet red, which coloration
appeared on pressure, but returned when this was
oved: eyes bulging and weeping, conjunctiva deeply
ected, pupils fully dilated and reacted slowly; entire
ly felt clammy; face swollen, turgescent and red-
ed; twitching of fascial muscles and extremities,
re marked in the lower extremities; knee-jerk exag-
ated; pressure or pricking at first not felt by patient,
r exquisitely sensitive; respiration superficial, pulse
, soft and weak. Recovery resulted after deep coma
ing twenty-four hours.

ase 6.—Spratling[23] reports the case of a young wo-
n who took sixteen pills of codein. She had suffered
some months from a painful disease and had been
ered to take the drug for the relief of pain and per-
ent insomnia. An hour after taking she had con-
erable nausea, vomited some, was awake, but extreme-
restless and irritable. She could not lie in one posi-
n and tossed from side to side. Frequent convul-
movements of the entire muscular system existed,
re marked in the upper extremities and head, with
ense irritation of the skin all over the body, most
oying along the flexor surfaces of the forearm and
the back. The pupils were fixed to pin-point con-
tion; respiration, 12 per minute. She had great
st and an uncomfortable feeling of fulness in the
d.

ase 7.—Roy[24] ordered codein for a boy aged 11
rs. The father, a druggist, gave him 1 gr. with
ir calisayæ. Great restlessness set in within an
r; respiration shallow and diminished; pulse, 100;
ils contracted. The symptoms lasted several hours.

ase 8. The author, for a female child aged 2
rs, ordered a cough mixture of codein, wild cherry
tolu syrups, which was given in larger and oftener
eated doses than directed. When she had taken in
about 2 gr. of the drug, alarming symptoms of
oning set in, such as deep coma, shallow respiration
reduced to 4 per minute, with pulse 120, and pu-
dilated. The comatose condition lasted several
rs and only yielded to the most active measures;
ellations with towels wrung out in cold water, elec-
ity, hypodermics of strychnin and atropin.

CONCLUSIONS.

1. Codein is a most valuable drug as a sedative in the various forms of cough. It is an excellent anodyne in the pains of pelvic and abdominal origin, where morphin is contraindicated and where the intestinal function should not be deranged. It is the best remedy in the medicinal treatment of diabetes mellitus.

2. It is best administered in the form of a sulphate for internal use and as a phosphate hypodermically.

3. Poisonous doses produce great restlessness, intense irritation of the entire body, spasms of the muscular system, and generally dilatation of the pupils.

4. No fatal case of codein poison is recorded.

BIBLIOGRAPHY.

1. Heidingsfeld, W.: Inaugural Dissertation, Strassburg, 1890.
2. Hagen: Die Arzneistoffe, etc., Leipzig, 1863, S. 584.
3. Kersch, S.: Aerztlicher Central Anzieger, Wien, 1896, viii, 17.
4. Rheiner, G.: Therapeut. Monatshaften, Berlin, 1889, iii, 393.
5. Cohen, S.: Medical News, Philadelphia, 1893, lxiii, 98.
6. Tyson, J.: Practice of Medicine, 1896.
7. Hare, H. A.: Practical Therapeutics, 1898, 7th ed.
8. Wood and Fitz: Practice of Medicine, 1897.
9. Anders, J. M.: Practice of Medicine, 1898.
10. Osler, W.: Practice of Medicine, 1898, 3d ed.
11. Strümpell: A.: Text-Book of Medicine, 1894, 6th Am. ed.
12. Lauder, Brunton: British Med. Jour., 1888, i, 1213.
13. Slaughter, R. M.: Richmond Med. Jour., 1899, xiii, 66.
14. Freund, H. W.: Therapeut. Monatshefte, Berlin, 1889, iii, 319; also Merck's Bulletin, N.Y., 1893, vi, 74.
15. Dornblüth, O.: Therapeut. Monatshefte, Berlin, 1889, iii, 363.
16. Schmidt, C.: Zeitgeist, 1889, No. 3.
17. Rosenthal, M.: Wiener Med. Presse, 1889, xxx, 1441.
18. Myrtle, A. S.: British Med. Jour., 1874, i, 478.
19. Ambrosoli, C.: Gazz, Med-ital. lomb., Milano, 1875, xxxv, 41.
20. Walsh, D.: British Med. Jour., 1889, ii, 718.
21. Mettenheimer, C.: Memorabilien, Heilbroun, 1891-2, xi, 136.
22. Béla, Medva: Internationale Klin. Rund., Wien, 1892, vi, 1457.
23. Spratling, W. P.: Medical Record, N.Y., 1893, xliv, 81.
24. Roy, P. S.: Personal communication.

SYNTHETIC CHEMISTRY,

ITS CONTRIBUTIONS TO MODERN THERAPEUTICS.*

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Synthetic chemistry is that department of chemistry which investigates the combination of elements or radicals under circumstances favorable to the formation of chemical compounds. It is the combining of separate elements or subordinates into new forms. In its restricted sense a synthetic compound is understood to be a body now made by artificial means, which formerly was believed to be capable of being formed only by vital action, such as urea, salicylic acid, or alcohol. The chemistry of the hydrocarbon compounds which consist of carbon united with hydrogen in definite series and which include the fatty and aromatic compounds, affords a number of illustrations of the achievements of synthetic chemistry, many of which are now of recognized therapeutic value.

Lavoisier wrote, in 1789, that: "Chemistry consists in the decomposition of substances; its object is to examine separately the various elements which enter into the composition of products. The study of chemistry advances toward its goal by division and subdivision." Synthetic chemistry reverses this proposition, and we now recognize the truth of the statement that the reverse operation is not only a part of chemistry, but also that it is to-day its *most important* department.

In former years, we were taught that chemistry was divided into two departments: organic and inorganic; organic chemistry comprising such compounds as were produced only within the tissues of animal and vegetable life, inorganic chemistry the elements and compounds of the mineral or inorganic world. We now know that no such dividing line can be drawn, for synthetic chemistry produces combinations, or chemical union of organic as well as inorganic elements. One by one the compounds which are found in plants and animals have been made by synthesis in the chemical laboratory, without the aid of the life process. We have now hundreds of such products known to physiologic chemistry and to medical science; among these are acids, sugars, starches, alkaloids, resins, fats, oils, albumins, etc.

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These products are produced largely in Nature's laboratories, and it is the task of the biologic chemist to ascertain Nature's secret processes in the animal or vegetable cells and then to set to work to imitate them. The pharmaceutic chemist is now both architect and builder, using certain atoms and molecules to *build up* chemical structures to meet the demands of clinical medicine. This *building up* of complex compounds from simpler ones, or directly from the elements themselves, has demonstrated chemistry, and especially synthetic chemistry to be the most useful servant of science and art. It has been the means of placing medicine on a higher plane, for without organic chemistry, medicine would not to-day be the healing science which it is, rather than the healing art which it was.

I would particularly refer to the *building up* of products from some definite compound, radical or molecule, consisting of carbon and hydrogen as a starting-point. The thousands of products so constructed in the laboratory to-day are only the beginning of those which are to come, for the combinations are limitless.

As an illustration of how such investigations are carried on, and how such synthetic products are *built up,* I may refer to the experiments of Filehne, who took up the study of the ecgonin ester in order to ascertain how cocain produces anesthesia, and to determine whether the complete cocain molecule was essential to the production of local anesthesia, or whether this also resulted from the decomposition products. His experiments brought to light the fact that the withdrawal of the benzoyl group—or methyl ester—deprived the benzoyl-ecgonin of all anesthetic properties. He also discovered at the same time, that the benzoylated alkaloids, such as benzoyl-tropin, morphin, quinin, cinchonin, etc., which have no relation to cocain, all produce local anesthesia, and this led him to the conclusion that the presence in a compound of the benzoyl group which confers the power of producing anesthesia was necessary. Meanwhile, the alkaloids from cocain were synthetically produced by the replacing of the benzoyl radical by other radicals; but most of these new compounds were found to have lost their anesthetic qualities. The conclusion was thus reached that a certain class of acid radicals, as well as the ester constituent, is essential to confer anesthetic properties.

When tropin is treated with benzoyl chlorid, it yields benzoyl-tropin, which is the type of a series of bodies called tropeins, having the constitution of esters of tropin. The natural mydriatic alkaloids belong to this class, and atropin has been actually obtained synthetically by heating tropin with tropic acid. Homatropin $C_{16}H_{21}NO_3$, is an artificial alkaloid base prepared by evaporating a mixture of tropin—obtained through the saponification of hyoscyamin—and mandelic acid, with dilute hydrochloric acid. Mandelic acid itself is produced by the action of hydrochloric acid on amygdalin, the glucosid of almonds; it is also obtained as a synthetic product by the action of benzaldehyd upon hydrogen cyanid.

The influence of the radical is all important in p ducing the physiologic action of a remedy. By vari combinations, the same product may be made to furn an antithermic, a hypnotic, an anesthetic, an analges an antiseptic or germicide merely by the substitution another radical, or the withdrawal of a compound in t form of an amine.

Synthetic chemistry has yielded a whole series of cr tallized alkaloidal substances which were originally fou only in plants. Later, a number of animal bases w also obtained, and we adopted for the former the title vegetable alkaloids, to distinguish them from those animal origin. Synthetic chemistry, but more especia the study of the coal-tar products, has brought to lig an enormous number of new bases, and also has given artificial alkaloids so that the restriction of the term kaloids to natural plant or animal bases had to be aba doned. Most of these alkaloids are known to be high toxic, i. e., morphin, nicotin, caffein, theobromin, stry nin, atropin, quinin and cocain. Various waste produ of the tissues and of putrefaction are closely allied these substances, some of them two and four optica different varieties, all identical with the products life processes. We also have discovered a great vari of aromatic substances which appear to be identical w the scents of the various flowers. Again we have t carbids—notably the calcium carbid prepared by el trolysis.

More startling indeed, we have the albumins, or p teids, chemically identical with those obtained from e serum of the blood, milk, cartilage and from the mu cles, not to speak of the nucleins. The albumins, t like the other products of synthesis mentioned, are ve unstable chemical compounds, being highly compl and easily decomposed. The slightest vibratory acti of the atoms easily breaks up the huge molecule, whi thereupon gives up a portion of its atoms and takes new ones. From this it has been inferred that life in t protoplasm may be considered a continual disinteg tion of the albumin molecules, and a constant reco struction of new ones. Thus the process of repair possible. Various by-products are produced duri these changes.

In 1891, Schutzenberger obtained by synthesis substance which was chemically and physically identi with *peptone,* which we know as one of the results fro the digestion of albumin, while Pickering, who had f some time been studying the albuminoids, announc to the Royal Society, in 1896, that he had obtain several new substances which not only gave the co reactions of *proteids,* but also were coagulable at a de nite temperature, and indeed one of them on being i troduced into blood coagulated it as did the *proteids* *vital origin.* While these discoverers have not claim that these substances are actually peptones, still th can not be distinguished from digested albumin.

Are we not warranted in asserting that the synthe preparation of artificial human food out of carbon, h drogen, nitrogen and oxygen will be realized in the ne future?

We cheerfully acknowledge our indebtedness to P teur for the initiative in the real scientific study of t pathogenic micro-organisms and the means of comb ing them. To him we owe the generalization that infectious diseases are due to micro-organisms, and, principle, the serum treatment of diphtheria and ot diseases originated with him also. Following Paste came Koch, Behring and many others, who have vanced the study of this part of science to our pres owledge, and so applied their investigations as to der invaluable service to therapeutics.

Pasteur, be it remembered, was first and last the emist, and all his work bore upon the important study the essential nature of the processes of fermentation d putrefaction. He found in both these processes, the cro-organisms producing synthesis by the rearrange- nt of the radicals in the compounds presented to m, and subsequently evolving, sometimes simpler, and other times more complex, bodies. During the pro- s of putrefaction we have synthetically prepared, also m the action of the microbes or micro-organisms, inite products known as ptomains, toxalbumins and ins, which in constitution resemble the alkaloids.

Microbes undoubtedly act as prime agents in the syn- esis not only of toxic products, during the process of cay of animal and vegetable life, but they also are ive in many other directions, as recent studies have nonstrated. I can, however, in this paper, merely al- le to this action of the micro-organisms in synthesis.

Recent investigations seem to prove conclusively that so-called spontaneous combustion is really the result this action of the microbes, being nothing more nor s than the rearrangement of elementary substances, erating some and introducing others, until a molecu- arrangement is reached, which, under favorable con- ions of moisture and temperature may explode and ite. This condition is seen in the so-called spontane- s combustion of hay, grain, cotton or oily waste. That generation of heat also in certain pyretic conditions urring in the course of disease is due to the produc- n and rearrangement of chemical products generated the action of the micro-organism (synthesis) is alto- her admissible.

The microbe thus performs the double function of alysis and synthesis, producing not only the patho- nic products destructive to health, but also the so- led antitoxins, some of which are physiologically ac- e and germicidal. The importance of this double ion is apparent, for we recognize the products of the processes of the micro-organisms as the direct cause disturbances to health, giving rise to specific disease, termining definitely its cessation and at times also fur- shing a specific for the treatment of that disease. emistry has recently cleared the way and opened up s field of study. It is, therefore, plain that the phy- ian is largely indebted to the chemist, and this ob- ation will become greater as the years pass. Professor ittenden, at the New York Academy of Medicine, Oc- ber, 1898, said: "I believe that it is no exaggeration say that the most important advances in scientific dicine for the next twenty years will be along chem- al lines, made possible through the application of emical methods of research. I base this belief upon close relation which chemistry to-day plainly bears so many of the fundamental problems occupying the dical mind."

Berthelot was the first to announce that sugar could transformed into alcohol without the presence of ing cells, that the liquid set free during cell-life, alone s sufficient to produce the chemical change. It was own that *liquid ferments,* derived from their proto- sm, brought about fermentation as well as did the liv g cells. These liquid ferments are called *enzymes.*

Fermentation is not, therefore, accomplished by the ast-cells alone, as formerly taught, but as well by the uid ferments derived from the yeast-cells. If a small antity of yeast-ferment or enzyme be added to dis- lve sugar, it at once begins the fermentative action, and alcohol and carbon dioxid are formed in exactly the same manner as in the presence of the living cells. Bertrand has declared that this is a chemical action and, as far as has been determined, that it is accomplished in accordance with the requirements of chemical formulæ. That this action is not due to living cells, nor even to living protoplasm, is proved by the total lack of effect in preventing this fermentation by the use of bactericidal agents such as chloroform. Further, yeast, after being subjected for six hours to a temperature of 212 F., a heat sufficient to destroy life, still yields enzyme. Buchner declares that its fermenting power upon sugar depends less on the chemical composition than on the geometrical structure of the molecules—right or left hand asymmetry. Thus the action, or changes during fermentation, becomes a synthesis. Bertrand has even claimed that the phenomena of respiration and oxidation in the living body are due to the action of similar ferments, and E. Fischer declares the conviction of most modern authorities upon this subject, in saying that the difference formerly supposed to exist between the chemical activity of living cells and ordinary chemical action does not exist. Mr. Arthur Croft Hill[1] declared that he had obtained the enzyme capable of *rebuilding* the twelve carbon atoms molecule, under the sole condition that the product of the synthesis shall be eliminated in proportion as it is formed. This constant elimination is in all probability just what occurs in all life processes.

Synthetic chemistry is said to have begun with the accidental discovery, made by Wohler in 1828, that a substance identical with urea can be produced by the reaction between potassium cyanate and ammonium sulphate; but Professor Meldola, in an address delivered before the British Association in 1895, declared that Henry Hennell had made, in 1826, the synthesis of alcohol from coal-gas, thus antedating Wohler some two years. In either even Wohler's experiment was the first artificial preparation of an organic compound. Soon afterward the announcement was made that synthesis of the hydrocarbons had been successfully accomplished by Frankland in England. Then came Perkins, another English chemist, who, in 1856, artificially prepared mauvein, the first aniline dye. Following this, carbolic acid or phenol was discovered in coal-tar, and this discovery led to investigations, the results of which are familiar to all, and to which I have not time even to allude. Next we come to modern discoveries of compounds of which acetanilid is a type, and the therapeutic fact that they have antipyretic and analgesic properties. This gave a mighty impulse to the study of the hydrocarbons. The discovery of Kairin demonstrated the probabilities of *building up* compounds of identical structure and with medicinal actions similar to the natural products, and thus opened a new field for therapeutics. Encouraged by this, chemists everywhere set resolutely to work and many valuable synthetic products have resulted from their industry and skill.

The clinician found that these medicinal products not only imitated Nature's remedies, but that therapeutically they were in some instances decidedly superior. New conditions arose, and new remedies were at hand to combat them. Cocain, with its toxic and appetite-producing properties, was supplanted by local anesthetics free from these objections. Atropin for ophthalmic use was improved upon in homatropin. Opium, Nature's hypnotic and anodyne, has also been vastly improved on by a host of substitutes, all which are the products of synthesis.

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[1] Jour. Chem. Soc., 1898.

There can be no doubt that our knowledge of the physical properties of the chemical composition and structure of substances will eventually enable us to predict to a great extent the physiologic action of the value of a remedy in treatment, for we know that the action of certain drugs may be so modified by the introduction of a new molecule, as not only to lose their original properties, but actually to become pharmacologically active in the reverse direction—for instance, morphin and apomorphin. On this basis there is much promise of progress being made in the treatment of disease. The therapy of drugs will, ere long, resolve itself into a question of chemical structure. The practitioner endowed with the knowledge of what the specific remedial requirements of his patient are, will be enabled to minister to those requirements by adding or omitting, so to speak, groups or radicals in the compound, which are, or are not, requisite in the case before him. It is true that the specific therapeutic action of a drug depends not so much on its composition, as on its constitution, therefore, the more we find out concerning the chemical structure of remedies, the more satisfactory will be their administration.

The symptoms of the various stages of disease are but manifestations of the physiologic action of specific chemical substances, or toxins, produced by synthesis, and due to the actions of the micro-organisms. This is illustrated in the symptoms caused by a pathogenic bacillus, where general systemic disturbances are produced when the germs are to be found only at the initial seat of disease; diphtheria being an example. Diphtheria antitoxin serum unquestionably owes its action to certain chemical substances which it contains, and which in the circulation, probably, enter into direct union with the toxins and neutralize the poisonous effects. All degenerate or pathogenic bacteria produce by synthesis chemical substances which are toxic to a greater or less degree, and these chemical products are chiefly responsible for the characteristic symptoms of disease. Certain chemical substances found in cadavers or in decomposing albuminous compounds resembling the vegetable poisons, such as morphin, coni, etc., were first discovered by Selmi about 1870, and were by him given the general name of "ptomains." Since then this title has been rather loosely applied also to toxins or toxalbumins and other poisonous agents produced in the human body by bacteria.

It would be a task indeed to even mention the products of synthetic chemistry which have appeared within the last, even twenty-five years. Take only a general classification, for instance:

The *antipyretics,* antipyrin, antifebrin, phenacetin; the *anodynes and hypnotics,* chloralamid and trional; the *uric acid solvents,* lysidin, uricedin, uretropin; the *local anesthetics,* ethyl chlorid, which produces anesthesia by rapid vaporization, and the non-toxic orthoform, nirvanin and holocain—instead of the dangerous cocain; the *antiseptics,* too numerous to mention. Then the *nutrient* and *reconstituent tonic albuminoids,* nutrose and somatose; last, but by no means least, the *animal remedial preparations,* the serums and organic extracts.

With these products, chemicals of definite therapeutic character, products whose identity is thoroughly established and whose use gives uniform results, the practitioner is able to anticipate therapeutic effects with a degree of certainty never dreamed of with the natural products. You will remember with what misgiving you formerly watched for the physiologic actions a times of remedies like digitalis, hyoscyamus, nux vomica, cannabis indica, opium, and numerous, in fac nearly all, the items in the Pharmacopeia of, say twenty five years ago; how much depended on the prompt effe you were able to secure with these remedies; how yo needed their prompt action to carry your patient over crisis. With all the advance made in the manufactur of these galenic medicaments, with the better knowledg of their chemistry, of the art of preparing them so tha the required amount of the active principle be containe in the finished preparation, it will hardly be claime that uniform results are to be looked for. None of ther are chemically pure; the variety of elementary substances present are often more or less antagonistic, which taken together with the resins and the inert component make their action uncertain.

In the synthetic product, we have a remedy of a definite chemical and therapeutic action without physiologi or chemical incompatibles; one which may be depende on to produce a certain action. It is a remedy of necessity chemically pure. Does a high temperature whic can not be safely endured rapidly consume the tissu of your patient? You have certain and safe antipyretics. Does pain rack his joints or destroy his peace You have your anesthetics and analgesics. Is there necrosis of tissue with accompanying formation of pu and the constant danger of septic poison? You will resort to the antiseptics and soon have the healthy repai In fact, there is scarcely a condition which has not i appropriate remedy at hand.

You ask who uses these preparations. Anticipatin such a thought, if not question, I requested six of th most prominent prescription pharmacists in New Yor City, as well as the apothecaries in three representati hospitals, to inform me what proportion of their prescriptions was composed of synthetic as against natura products. The figures will doubtless surprise you. I every instance there was a decided percentage in favo of the synthetic products, the lowest in the pharmacie being 75 per cent. of the synthetics to 25 per cent. o the natural products, and the highest being 88 per cent of the former to 12 per cent. of the latter. In the hospitals, the percentage was not so large in favor of th synthetics, being on an average 60 per cent. of the synthetics to 40 per cent. of the natural products. It is question, however, if the price does not account fo this difference between the pharmacies and the hospitals as many of the prescriptions received at the pharmacies were from the same physicians who were on the staf at the hospitals. This is true in the great intellectua center of New York, and I doubt not inquiry would disclose a decided percentage in favor of synthetic product in other centers if I had had time to investigate.

Now what constitutes a test of worth; who is to decide if an article has merit? Is it not the physician, the medical scientist who is best equipped with the means and skill which will aid him to determine? He who properly studies the physiologic and chemical action of such remedies in the laboratory first, then upon animal life, is best able to assure his confrères of the article's worth and its clinical applications. It is said that there are too many such synthetic products; that one could not make use of them all; that new ones are presented before the real worth of a preceding one has been established: and that it is always the last one which is supposed to possess the greater merit. "Prove all things, hold fast that which is good" until you find a better. To have established the real worth of an anesthetic or an analgesic does not imply that the end has been reached, rather it proves—if it proves anything at all—that inasmuch as this is an advance, a still further advance is desirable and may possibly be attained by intelligent investigation, as here again we can not stand still. Not long since I was told by a physician that life was too short to indulge in trial of every new remedy brought to his attention. Yes, but we can not be satisfied with continuing the methods considered good twenty-five years ago. If all men in all branches of thought were content to hold fast to that which their teachers said was good, we would—well, I leave the result to your imagination.

I lately re-read one of the text-books, which I used while a student of medicine some twenty-five years ago. It was a work on the theory and practice of medicine, written by a man who at that time was considered the ablest teacher and practitioner of internal medicine on the American continent, and I distinctly remember with what reverence we listened to this man's teachings, and with what pride we read the book. I then proceeded to contrast this book with one world-famed, treating of the same diseases, and published in 1899—"only twenty-five years," you will say, "not long enough to have made material changes in the treatment of diseases." Well, I can answer this by advising my critic to read two such works. This refers only to internal treatment. What can indeed be said concerning surgical treatment? A work on surgery by another of my early friends, which represented the most advanced thought and application of surgical means twenty-five years ago, does not even mention scores of diseases, much less the means of treating them—knowledge, which is now considered prerequisite to graduation at any respectable medical school.

For the advancement of knowledge and science, constant study is required to discover Nature's laws, and to learn how to apply these same laws to practical purposes. It is he who devotes himself to original investigation, who invents new methods for the advancement of our knowledge, who discovers new laws and the methods of applying them, who multiplies our means of culture as well as supplies us with the weapons with which to combat disease, who most deserves our encouragement and reward. While occasionally, there are those provided with wealth and a desire to achieve fame as well as to benefit humanity, who employ their time and means for the advancement of knowledge and science without the hope of gain other than the credit which will follow, yet fortunately for the advancement of civilization, the progress of the race has not been dependent on these individuals; on the contrary, advance in all directions has been due to the efforts of those who live by their work, or for the hope of financial reward. The advancement of science and art must depend on these people.

To conduct the business of manufacturing chemist, and to foster the making of original research, labor and capital must be invested, for which the investor must receive adequate return; and in order that advance shall not be retarded, that protection shall be granted as an inducement to investigators and inventors, it is the policy of all civilized governments to offer the reward of a patent, limited as to duration, for the invention. Surely such a beneficent plan deserves the encouragement of all men, and especially of the medical profession. Is it wise, therefore, to decline to investigate or publish the facts concerning the newer remedies as they appear, because they are patented? If a remedy is unworthy of a place in our armamentarium, let the world know it, but be equally just and make known its benefits for the good of humanity. If patented, it is not secret, and it is only the question of a few years when it will become public property, as in the case of antipyrin.

The medical profession can no more stand still than can any other branch of learning; in fact, it is of the learned professions the most advanced; the most closely in touch with all that concerns the uplifting of man, physically, morally and intellectually. Among the things contributing most to the three higher attributes of man I would place health first, and by health, or wholeness, which it implies, I encompass its whole range of meaning. With good physical health, I associate truth and intellect; for having health, physical and moral, we will necessarily have intellect. Therefore I repeat that it is the physician who leads in the uplifting of man. It follows in logical sequence that he must adopt means which will most surely secure desirable ends. To close his eyes and reject the modern weapons which science and synthetic chemistry place ready at hand with which to combat disease, is to retrograde. It is not possible for him to stand still, he must advance with the great minds and thought, or he must fall behind and lose the vantage ground already gained, from which he should strive to make further advance. Following the example of a surveyor, as aptly observed by Oliver Wendell Holmes, he should place himself on the limits of the known and triangulate out into the great unknown fields of science which still remain to be explored all around him.

PANCREATIC CYSTS.*

BY L. L. McARTHUR, M.D.

CHICAGO.

To M. Takayasu belongs the credit for the most exhaustive résumé of recent date on the surgery of the pancreas. He has collected and tabulated all the well-authenticated and observed cases of pancreatic surgery in the literature, to the number of 104 cases, to which he adds a careful study of three operated in Mikulicz' clinic and from which, with this acknowledgement, I shall quote freely. If, therefore, I presume to add two cases, with conclusions drawn from the literature, I may be pardoned; since we can only from a number of thus accumulated cases draw deductions of value, as a basis for future treatment of a disease the symptomatology of which is by no means yet clear and settled. Cysts of the pancreas are of varying types and have been given a variety of names, but an attempt should now be made to secure some definite classification.

Arsène Bas, in his Lyons thesis, upholds Virchow's position that the nature of these cysts must be determined by the characteristics of their walls. From such an examination it becomes possible to divide them into three general classes: 1. Retention cysts—*a,* true; *b,* pseudocysts (*Ranula pancreatica*). 2. Cystosarcoma. 3. Adenocystomata (*Epithelioma cysticum*).

It is to the first class I desire to direct your attention, the most important because the most frequent being the simple retention cyst, well-named by Virchow, *Ranula pancreatica,* since it corresponds in its pathology with the common ranula buccalis. The seat of the obstruction to the pancreatic secretion determines the location, development and character of the clinical phenomena of this type—when in the common duct of Wirsung it causes a dilatation of the entire duct and even its lateral branches until there is a cystic destruction of the entire gland, and the cyst occupies a central location, as in Virchow's observations; when in some of the smaller ducts with a more circumscribed origin, in the head or tail of the gland, as in Recklinghausen's or Case 1 reported here. Freidreich, too, is of the opinion that the majority of pancreatic cysts are due to a stasis of secretion. Imagine an obstruction of any small duct; its glandular structure drained by that duct continuing to secrete fluid which can not escape, it soon produces a cyst, which will grow steadily larger, the walls of which will in part consist of compressed pancreatic tissue. Hence it is possible to determine whether the cyst has thus resulted, or is a neoplasm of an entirely different nature, in some instances requiring an entirely different treatment. The finding of glandular acini, though more or less atrophic, renders the diagnosis easy.

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Varying causes here as elsewhere have been observed as the factor in producing the obstruction to the flow of pancreatic secretion, an interstitial pancreatitis being the most frequent, with stones in the duct, gall-stones in the ampulla of Vater and neoplastic obstruction as occasional factors. Trauma was apparently a factor in thirty of the 104 cases collected by Takayasu, and of these one-half showed the trouble within three months after the injury. Various hypotheses have been brought forward in explanation of this, the most plausible being that of Küster, who attributes it to a tearing of some of the smaller ducts or a hemorrhage into the parenchyma which leads to a cicatrical contraction and duct obliteration. Probably the so-called hemorrhagic cysts all belong to this category, the blood coming from the trauma, and the fluid from the torn and obstructed duct. They constitute the pseudocysts. They have not the true cyst wall and usually occupy or break into the lesser peritoneal pouch, thus gaining the title of bursal cysts (Heinricius) by some writers. Case 2 was of this type. They occur with equal frequency in both sexes, in greatest number between the thirtieth and fortieth year, still they can not be said to be common, for in 6000 post-mortem examinations at Guy's Hospital only four were seen.

The most constant symptom is a colic in the duodenal region, of marked severity, seen in both my cases, and in sixty-four of the 104 collected from the literature. Disturbances of digestion rank next in frequency, especially the intestinal digestions, though whether due to or causing the pancreatic trouble is open to discussion since the very convincing experiments of Hlava. These were based on the study and observation of four cases and a number of animal experiments, and seem to prove that an angiopancreatitis resembles in every way its twin sister, angiocholitis, by an extension of an infectious inflammatory process up the duct of Wirsung, especially by intestinal bacteria in an acid medium, as would be the case on the outpouring of the stomach contents into the duodenum. With the colicky history and gastroduodenal disturbances that always attend these cases the idea came to him that possibly the regurgitation of duodenal contents might be the etiologic factor. In fact, he was able by experimental injection of gastric secretions into the duct to produce all the phenomena of acute pancreatitis and even the production of fat necrosis and gangrene.

He found the bacillus communis coli present in the fat necrotic areas, proving the idea that regurgitation can occur. The fact is that, in Case 1, when the pedicle came off, bile escaped from the wound for some days, mixed with the pancreatic juices, hence coming back from the ampulla into the pancreatic duct and out through that branch which probably had been the cause of the cyst formation. From these and Flexner's experiments, the facts about fat necrosis seem to be that the combined action of bacteria and steapsin are essential to its production. In Case 2, in which extensive fat necrosis in both mesentery and omentum was observed, culture tests were negative.

We are all familiar with, and therefore accept as quite a natural sequence, the jaundice accompanying a gastroduodenitis, basing our explanation on the obstruction through swelling of the duct mucosa incidental to a bacterial infection, but have not until very recently had our attention riveted on similar phenomena in a duct so intimately related to the bile-duct as is that of the pancreas. Hence, icterus is a common symptom in the course of development of a pancreatic cyst, occasionally due, however, to such other mechanical obstruction as neoplasms, pancreatic stones (Nicholas and Moliere), or gall-stones which (Morton's case) may offer in this situation.

Ileus is a frequent symptom, having been observed by Hagenrach, Turner, Tobin, Finotti, and Lindh. Case 2 came to the hospital in collapse, suffering with that condition. I believe the explanation for this is the toxic paresis due to the escape of the cyst contents into the peritoneal cavity, such being the condition found on opening most of those cases presenting that symptom.

Lack of escape, total or partial, of the pancreatic fluid would be expected to produce a failure of digestion corresponding in degree to that lack of pancreatic fluid, and cases reported by Fles, later by Bull, Fenger, Steele, Clark, and others showed, on fecal examination, lack of fat digestion, while similar lack of trypsin digestion was noted by Kuster, Reignier, Mikulicz and Ogata. But inasmuch as the obstruction to the flow of the pancreatic juices is rarely total, so failure of digestion of these food products is rarely total, and these symptoms are inconstant and therefore of minor import. Recklinghausen and Virchow have observed cystic dilatation of the gland from stone. We know that destruction or extirpation of this gland means subsequent diabetes, hence cases of the latter affection have been noted, but as the destruction is seldom sufficient to destroy the functional capacity of the gland for the regulation of the hemic glycogen, glycosuria is inconstant.

The position of the tumor depends largely on its point of origin in the pancreas, as the greater part of the organ lies to the left of the mesial line, so with greater frequency are the cysts found on that side. In the two here reported one occupied the entire right half, while the other was one of the so-called bursal cysts (Heinricius) in the lesser peritoneal pouch. They have been found projecting through the foramen of Winslow, retroperitoneally, as well as wholly in the peritoneal cavity (Dreyzehner). Parkes and others have had them between the stomach and liver.

Inflation of the intestines often gives valuable aid in the relative positions of the tumor and the alimentary canal, occasionally justifying the use of an exploratory hypodermic puncture of the cyst to determine its origin and nature. Thus in Case 1 I felt justified and enabled to include ecchinococcus, hydronephrosis, distended gall-bladder and inflammatory exudate, the sac contents reducing the sugar-test solution after contact with starch mucilage. No cultures were successful; no bacteria were found on staining.

Takayasu warns, however, as have Keen, Cathcart, Tremaine, *et al*, of the great danger of injury to other abdominal organs, quoting Karewski and Ogata as piercing the stomach wall—without injury in those cases, however. Tremaine and Cathcart have observed sudden collapse, and have been obliged to make hasty laparotomy, hence very rarely will this aid to diagnosis be justifiable.

No rules can be laid down as to the best treatment for all cases, and whether to extirpate the entire sac or to suture it to the abdominal wall will have to be determined for the particular case. Certainly the easier of performance is the two-step drainage, with probably the greatest safety to the patient, though with much the longer convalescence, and even the remaining of a fistulous opening for a long time, with the possibility of its wall being malignant, as has often been reported. The danger in extirpation, aside from shock and sepsis, may be said to be hemorrhage. Senn's experimental work led him to the conclusion that temporary hot compression acted better than the ligature. Kosinski successfully used the thermocautery. In Case 1, I successfully utilized the rubber pedicle ligature, around the base of the enormous sac, much as for the old method of hysterectomy, bringing the stump deep in the upper angle of the wound, thus escaping much delay and shock, with no hemorrhage. When on the eighth day the pedicle dropped off, the dressings became wet with a thin watery, somewhat glairy fluid, which responded to all the tests for pancreatic juice, and on the second day yellowish staining of the gauze proved, on tests applied, to be bile. Anxiety was felt lest the common duct had been injured, but as the discharges all ceased in four days, I could only conclude from the site on the head and anterior part of the pancreas that some branch of the pancreatic duct close to the main trunk had been included in the pedicle, and that probably the same cause which induced the formation of the cyst had permitted the regurgitation of the bile from the point of junction of the bile-duct with the pancreatic duct. Of the 104 cases referred to, total extirpation had been practiced thirteen times, so this case may the fourteenth, the patient being now in good health after the lapse of two years, the second well six months ofter operation, but requiring future correction of incisional hernia.

Case 1.—*Tumors of Pancreas.*—A man, 17 years of age, was referred by Dr. Frank Billings, in October, 1897, for an acute attack very closely resembling appendiceal abscess. The previous history was of indigestion, otherwise negative. There was a sense of fullness in the abdomen, acute pain coming on during a game of tennis, with vomiting, abdominal tenderness, high fever and tumor in the right hypogastric region. The area of flatness was so large that it was deemed justifiable to explore hypodermically, doubt as to the presence of pus existing. Dark straw-colored fluid was obtained, the microscopic examination of which was negative with the exception of cholesterin crystals; no bacteria. A liter and a half was withdrawn. One week later abdominal section was done and extirpation of the cyst, which extended from the smaller pelvis to the costal margins, occupying the right half of the abdomen, and adherent to those organs with which it was in contact. The pedicle was seen to originate from the head of the pancreas. The wound was dressed with Mikulicz' sac. The temperature was high during the first two days, normal after removal of the sac.

Pathologic Report.—The tumor is ovoid, about the size of an adult head, and consists of numerous cysts containing a thin, almost transparent greenish-brown fluid. One cyst comprising the largest part of the tumor contains about 1000 c.c. of the above-mentioned fluid, and the several small cysts contain together about 500 c.c. of a similar fluid. The outer surface is roughened, showing the evidence of old adhesions. The inner surface of the large cyst is smooth, the inner surfaces of the smaller cavities trabeculated. The color of the tumor is grayish-white, and in some areas on the inner surfaces there is a rusty-brown discoloration. The thickness of the cyst walls varies from 3 to 5 mm.

At the upper pole, where the tumor was attached, is an area about 4x8 cm. and 4 cm. thick, where the tissue resembles the pancreas but contains a large amount of fibrous tissue.

Microscopic examination shows within a dense fibrous stroma islands of pancreatic elements and also isolated ducts. A few areas showing round-cell infiltration are to be seen, and in some sections numerous giant cells.

Examination of the fluid shows a considerable amount of albumin, no sugar, no bile—microscopic examination shows crystals of cholesterin.

Case 2 (Medical Diary of Michael Reese Hospital, No. 13,222).—Mabel S., aged 22 years, a nurse, American, single, was treated by Drs. Goodkind (Dyche) and McArthur. She was admitted Oct. 28, 1898, and discharged March 19, 1899. The diagnosis was pancreatic cyst.

History.—She had been feeling badly for a few days prior to the severe initial symptoms which came on while the patient was in the Venetian Building on the afternoon of October 27. While there she experienced chilly sensations all over the body, followed by a fainting spell. Simultaneously, she says, she was almost convulsed by cramp-like pains in the abdomen, continuous in character. The attack was attended with copious vomiting, watery and biliary in character. She received an injection of morphin sulphate for the pain, and was moved to her home several hours afterward and continued to vomit a number of times. She did not rest well during the night. To-day the condition is much the same and the patient finds the slightest shifting of position painful. The bowels have not moved for three days, though she has received pills, castor-oil and injections. Prior to her illness they moved regularly (daily) without assistance. The appetite is lost and there is nausea. She is not menstruating at present.

She has had diphtheria, measles, a mild typhoid, tonsillitis. Three years ago she flowed every week instead of at the regular times; this condition prevailed a month and a half.

She is regular in habits, and has done considerable lifting in the course of her occupation.

Examination.—Her general nutrition is good; face pale and anxious; tongue, whitish fur; throat, negative; glands and skin, negative; chest, negative; the abdomen showed slight distension, the abdominal muscles rigid; palpation was very painful over the entire abdomen; tympanites, above the flanks dull; no tumor or mass was demonstrable.

The rectal examination was with the patient in the left lateral position. A mass the size of two hen's eggs was palpable just beyond the internal sphincter on the right side; this was not felt at a later examination before operation.

The vagina hardly admitted the index finger, and no deep palpation was attempted, but the cervix was palpable (virgin), the uterus freely movable.

Operation was performed October 29. The incision was from two inches above the umbilicus to two above the symphysis pubis. On opening the abdominal cavity it was found to contain a large amount of brown transparent fluid resembling bile in color. The appendix was normal. Manual exploration of the gall-bladder proved negative. During manipulation of the omentum, rupture occurred into a cyst cavity or collection of fluid in the lesser peritoneum; a large quantity of fluid, the same in appearance as that found in the greater cavity, escaped; in all probability 1200 c.c. The opening was enlarged and the cavity seemed to extend as high as the head of the pancreas. Throughout the lining of the lesser peritoneal cavity and in the mesentery were to be seen small masses of fat necrosis, this rendering diagnosis of pancreatic cyst highly probable. The entire abdominal cavity was flushed with normal salt solution and the cavity packed with iodoform gauze with a Mikulicz drain; an Emmet glass drain was placed down to the floor of the pelvis. The alarming condition of the patient prevented thorough exploration of the origin of the cyst and necessitated discontinuance of the anesthetic during the latter part of the operation. She was given oxygen, and diffusible stimulants and strychnia were freely exhibited.

October 30, the tube was aspirated and a brownish-red fluid removed.

October 31, a rubber tube drain was substituted for the Emmet glass.

November 1, the Mikulicz was removed, six inches of rubber tube substituted, passed upward, backward and to the left from near the umbilicus.

November 5, the discharge was purulent and larger in amount.

November 12, the discharge was very profuse—glairy pus; masses of inspissated pus.

November 22, it was very profuse, and a syphon drain was introduced into the upper wound.

November 29, there was purulent discharge, very profuse, and the lower end of the wound closing. The tube was removed, and I irrigated with lactate of silver, 1/500.

December 11, the discharge was very profuse.

December 22, the discharge was diminishing.

December 24, the syphon was removed, and a six-inch rubber tube substituted.

January 1, profuse discharge was present.

January 10, the amount of discharge was decreasing.

January 19, there was less discharge. The tube was shortened.

January 28, the discharge was less.

February 2, tube was shortened to two inches.

February 25, with less discharge the sinus remained patent for about five inches.

March 9, the discharge was very slight, the rubber tube remained to keep the skin wound open. The patient was discharged and advised to return for dressing.

Brownish fluid found in cyst and general abdominal cavity: bile, none; reduced Fehling's solution; crystals like cholesterin; leucocytes and bacteria.

Reddish fluid vomit: red and white blood-cells; no bacteria; amylolytic ferment; peptones present.

(Signed) D. N. Eisendrath, M.D., pathologist.
D. O. Hecht, M.D., house pathologist.

The examination of the masses of tissue from Mabel S., was reported about two weeks ago and corresponds with that made of the fragments examined to-day, viz., that they are necrotic masses of tissue.

Daniel N. Eisendrath.

Nov. 25, 1898.

CONCLUSIONS.

1. Similar infections occur in both branches of the common duct—i. e., bile-duct and pancreatic—with their manifestations differing as their secretions differ.

2. An icterus is a frequent accompaniment of angiopancreatitis, hence we must hereafter differentiate between icterus of pancreatic origin and the commoner varieties.

3. Regurgitation into the pancreatic duct—of bile at least—is quite possible, and is borne out by the clinical experience afforded in the case reported.

4. Pancreatic colic is to be added to the list of colics when attempting to make our differential diagnosis.

5. If there be reason to suspect the origin of a pancreatic cyst to be other than a simple retention cyst, extirpation, if possible, is to be practiced to protect against malignant recurrence.

6. Occasionally cases presenting typical multiple areas of "fat necrosis" in the omentum and mesentery may yet recover after a tedious convalescence.

DISCUSSION.

Dr. D. W. Graham, Chicago—I, some months ago, had occasion to look up the literature of this subject in connection with two cases of pancreatic disease, which I reported at that time. There are altogether only some sixty odd cases of operation for pancreatic cyst which have been put on record and it will be found on studying these reports that not many of them were true cysts. The large majority were the so-called "pseudocysts," sometimes called "omental cysts." It would be better if we could agree not to call this class of cases cysts at all or even pseudocysts, as it is misleading. This so-called false cyst is simply a hematoma, a hemorrhage into the lesser omental cavity. It may have a traumatic origin, or it may be due to a co-existing septic process, a pancreatitis more or less acute followed by suppuration and hemorrhage from the pancreatic or contiguous vessels.

Dr. F. B. Turck, Chicago—I wish to report an interesting case of pancreatic hemorrhagica referred to me in the Post-Graduate Medical School. The history showed symptoms of gastro-intestinal disturbance. It was referred to the clinic as a case of gastro-enteritis. On palpation we found a large tumor occupying the left hypochondriac region and the epigastrium. We inflated the stomach and found the tumor had disappeared, showing that it was behind the stomach. I operated and found that it was not only a case of pancreatic hemorrhage, but that there was also a very extensive peri-pancreatitis, with adhesions to and a corrosion through the duodenum, discharging the pancreatic substance into the intestine. The patient died shortly afterward. Professor Klebs made the autopsy and confirmed our observation.

Dr. Pinckney French, St. Louis, Mo.—I wish to add one more case to the number collected by the gentleman in his history of the literature on the subject. On March 20, 1899, I removed from a Mrs. G., Ullen, Ill., a tumor connected with the pancreas, weighing 66 pounds. She was in perfect health, except for a slight elevation of temperature. Her pulse was 84. She was a large, brawny woman, 48 years of age and the mother of ten children. Examination revealed a large tumor of a cystic character, occupying the entire abdomen. I was unable to detect any stomach resonance, in fact, none anywhere; but I did detect a cystic growth in connection with the right ovary, and, without announcing my opinion, I thought that I was operating for an ovarian cyst—a mistake which has been made by other surgeons operating for this purpose. The next day an incision was made, about five inches in length through the rectus muscle, in the right side below the umbilicus. The tumor extended down to the brim of the pelvis. I was somewhat surprised when I found that there was no connection with the growth in the pelvis. I could easily pass my hand to the right or left of the tumor or beneath it, but above it was closely adherent to the abdominal walls, especially above the umbilicus; in fact this case had been treated for hernia for five years, and had worn an abdominal umbilical truss. The history of the case showed that the tumor was of fourteen years' growth; it grew in front of the omentum in which were large dilated vessels. If the growth protruded through the foramen of Winslow, it could have come to occupy such a position. The fluid contents were of a brown-pinkish color, entirely sterile, free from odor, and proved to be pancreatic fluid, giving the digestive ferments of amolypsin, trypsin and steapsin. I had a difficult task in extirpating the growth, which was connected with the mesocolon, with the border of the stomach and with Glisson's capsule. I tore the latter in making the extirpation. I found no pedicle, did not touch the pancreas, and no stone was felt. A number of pieces of gauze were packed in for twenty-four hours. I also removed the cyst of the ovary, weighing 6 pounds. The patient made an uneventful recovery.

Dr. L. L. McArthur, Chicago—In regard to the hemorrhagic cyst, I would like to mention the sudden and extremely rapid development of these sometimes. Just as the salivary glands can, under stimulation, secrete an enormous amount of secretion, so these cysts can develop from leakage of a moderate-sized pancreatic duct as the result of trauma or of the action of bacteria gaining access through the duct. I would beg of the medical profession that when they now get a case that used to be classed as one of gastro-duodenitis, to give a passing thought to the possibility that the trouble may be referred to the other branch of the common duct, the pancreatic duct.

An Experimental Diet Institution. The necessity of a government institute for the study of diet for young and old, in sickness and in health, was advocated at the recent German Congress of Physicians and Naturalists, as "a scientific, economic and humanitarian necessity." The proposition met with general approval, although not officially indorsed.

Clinical Reports.

MPUTATION THROUGH THE ARM VS. EXCISION OF THE ELBOW; A CASE OF CONSERVATIVE SURGERY.*

BY HERMANN B. GESSNER, M.D.

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NEW ORLEANS, LA.

Frederick Treves[1] makes the following statement nder the heading, "The General Considerations of xcision Operations:" "The surgeon must be fully alive the general surgical aspects of the case, to the condi- on of the patient, to his prospects of standing a long nd severe operation, and to his capacity for exhibiting igorous powers of repair. An excision is to some ex- nt a plastic operation, and good and substantial heal- ng is a necessity." Having given this out as my text, t me bring forward the details of the following case:

Thomas R., a colored farm-hand, 21 years of age, was dmitted to the Charity Hospital on September 8, when ttention was immediately drawn to the right elbow, hich was very much enlarged, riddled with sinuses, nd seemed to be a weight and a drag on that side. As frequently the case in patients of his race, no satis- actory history of the course of his disease could be icited. A diagnosis of tuberculous disease of the elbow as made. Examination of the viscera revealed a bad ate of affairs: the heart presented, at apex and base, emic murmurs fully accounted for by the extreme nemia of the patient, whose mucous membranes showed arked pallor; the apex of the left lung, anteriorly, owed signs of beginning consolidation; the urine, of 018 specific gravity, contained 1.5 per cent. of albu- in, as well as finely granular casts.

It was evident that the patient was not in a condition profit by an excision; in fact, he would not be likely live through the ordeal of such an operation under a eneral anesthetic. He was, therefore, prepared for mputation by the administration of strychnin and digi- lis, and on the 11th, amputation through the middle ird of the arm was undertaken. An Esmarch con- rictor having been applied just below the axilla, a .2 er cent solution of eucain B with sodium chlorid was sed for infiltration of the tissues; the total quantity jected was 900 m., equivalent to 1.8 gr. of eucain . First the skin was edematized and the solution in- cted into the subcutaneous areolar tissue. The circu- r cut down to the muscles was then made, without iving pain; a skin cuff equal in length to one-half the iameter at the proposed saw-line was dissected back, is proportion being thought sufficient on account of e atony of the tissues and lessened power of retraction. t the level of the reflected skin-cuff, the solution was jected into the muscles, special care being taken to filtrate the region occupied by the nerve trunks on e inner side of the limb. The section of the muscles nd nerves was painless. Division and peeling up of the eriosteum caused some little pain; the bone-section was ccomplished without complaint from the patient. The peration was completed in the usual manner. The erve-stumps were infiltrated at the highest accessible oints when pulled out for trimming short; this again licited some complaint from the patient, who, however, remained quiet and did not interfere with the progress of the operation.

Special attention was paid to the thorough closure of the stump so as to prevent the remaining of dead spaces for the accumulation of serum. Kumol catgut sutures were employed to bring together in successive layers periosteum, muscle and fascia. Silkworm gut sutures were used for closing the skin wound; this caused some pain, the analgesic having no doubt in part escaped and in part been absorbed, as the constrictor had been removed to permit the taking up of bleeding points. The wound was dressed with iodoform gauze, then with sterile gauze and cotton; the arm-stump was then lashed to the chest, that natural splint of the upper extremity, and a couple of towels placed in the axilla to absorb the sweat so abundant in that region in his race.

The patient was up and about the next morning, shock having been scarcely appreciable. There was at no time a rise of temperature. Basham's mixture was given, fl. ℥ss. three times daily, after meals. The skin sutures were removed on the eighth day.

The local result has been very satisfactory, the bone-stump being well covered with periosteum, muscle, fascia and skin without tension. The general result has also been good. The boy is now distinctly less anemic macroscopically. I regret not having had a blood-count made at the time of his admission, a failure which makes impossible the microscopic confirmation of the bettered blood condition. The urine, according to a recent report from the pathologic department, contains neither albumin nor casts. While their absence may be only temporary, it is quite likely that freedom from the irritation of the urinary tract by the elimination of absorbed toxins is accountable for the improvement manifested by the report. While the heart sounds at the base have not yet regained the normal definiteness, the loud bruits have disappeared. The pulmonary condition has remained unchanged.

I believe this patient would have died on the table or during the course of the after-treatment had excision been performed at the time of his admission. On the other hand, delay, for the purpose of building him up, would likely have resulted in progressive degeneration of the kidneys. Amputation was therefore the operation to be chosen.

In conclusion, I wish to give credit to Mr. J. J. Peterson, the interne of the service, for the notes taken, which have been the basis of this report.

RIGHT INGUINAL HERNIA OF THE VERMIFORM APPENDIX.

BY REUBEN PETERSON, M.D.

Professor of Gynecology in the Chicago Post-Graduate Medical
School; Surgeon to the Charity Hospital, etc.

CHICAGO.

Hernia of the vermiform appendix, unaccompanied by other visceral parts, is comparatively so rare as to call for the recording of all such cases.

F. E. D., single, aged 52, consulted me in the early part of June, 1899, for a right inguinal hernia which he had first noticed when only 10 years of age. Up to the age of 26 the swelling in the groin was complicated by inflammation and tenderness of the right testicle, which gradually became softer and smaller than the left. At this age, and while engaged in heavy work, the hernia became larger, and he has worn a truss ever since. The hernia has been caught many times, but he has always succeeded in replacing it by lying down and gradually working it back. On these occasions he would roll on the floor in great agony until he had been able to accomplish the reduction. Lately, during these attacks, he has been greatly distended with gas and, becoming fearful that the hernia might become strangulated, he decided on a radical cure. He assured me that I would find his rupture differed from that ordinarily met with.

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*Read before the Orleans Parish Medical Society, New Orleans, La., ept. 23, 1899.

[1] Manual of Operative Surgery, vol. i, p. 602.

Examination showed the right testicle soft and one-half the size of the left. The external ring barely admitted the tip of the finger, and while an impulse could be felt on coughing and straining, the patient was unable to force any bowel through the ring.

At operation, June 3, 1899, the cord was found adherent to and quite filling up the external ring. The inguinal canal was opened and the adherent sac isolated and opened. The vermiform appendix was found lying free in the sac. It was about three inches in length and to all appearances perfectly normal. The specimen was mislaid, and no microscopic examination was obtained. The head of the cecum presented at and completely occupied the internal ring. It was adherent and could not be drawn forward into the canal. The appendix was removed, the cecum freed as far as possible from its adhesions, and after the ligation of the sac the operation was completed after the plan of Bassini. The wound healed by first intention and the patient left the hospital at the end of a month, apparently cured.

We are indebted to Bajardi[1] for the most complete paper on hernia of the vermiform appendix. To Klein's[2] 22 cases and Brieger's[3] 25, he added 51 collected by himself, a total of 98 where the hernial sac contained the appendix alone. Briancon[4], in his thesis, published in 1897, raised the number of recorded cases to 112. To this list can be added 3 recent ones of Stanton[5], Van Hook[6], and Eve[7]. The addition of the present case will make a total of 116 recorded cases, a comparatively small number considering the vast number of herniæ which have been operated on. This does not include all those of hernia of the appendix, for many are not reported. In a recent paper, Catellani[8] says that out of 420 herniæ, the appendix, either alone or with the cecum, was found four times, and that none of these had been published.

The present case is somewhat unique from the fact that the appendix was free in the sac, yet irreducible from adhesions of the head of the cecum to the internal ring. Bajardi found only 4 out of his 98 cases which were reducible; 16 were adherent, but otherwise unchanged; 47 were strangulated, and 30 were inflamed. The appearance of the internal ring, the sac and external ring indicated that only the appendix occupied the inguinal canal, and that there was no hernial protrusion through the external ring. Yet the patient mentions repeated attacks of pain in the inguinal region only relieved by the forcing back of the hernia. I can only explain this on the supposition that the appendix lying in the canal and held there by the adherent cecum became pinched in some way and gave rise to the pain and other symptoms of strangulation which were only relieved by manipulation. Van Hook[9] in reference to this point, says: "The causes of th symptoms of incarceration are difficult to learn. I Glasmacker's case an acute flexion caused the phenom ena, and actual mechanical obstruction doubtless occur sometimes. A few cases may be explained by Klein' supposition that the obstruction is a dynamic one, due t the reflex involvement of the motor nerve of the intes tinal musculature."

Naturally the majority of herniæ of the appendi are on the right side and are inguinal. Bajardi foun 57 inguinal, 40 crural and 1 obturator. Rivet[10], in 9 cases, where the varieties are stated, found 63 inguina 28 crural, and 1 umbilical; 2 were inguinal and 1 fem oral of the left side.

The diagnosis of the condition prior to operation i very difficult, and in the majority of cases impossibl Fortunately a correct diagnosis is not necessary, as th surgical treatment of the condition is the same whethe or not the appendix forms a part of the hernial content

Therapeutics.

Yolk of Egg as Excipient for Salves.

Unna is now using a salve composed of two parts yolk of eg to three parts oil of sweet almonds, blended as for a salad dres ing, to which is added the medicinal substance required, to proportion of 10 per cent. The salve dries rapidly and forn a protecting covering especially advantageous in eczema, ac and scabies. 1 per cent. Peruvian balsam will prevent decon position.

Inhalations of Formaldehyde in Catarrhal Affections

P. Beristain proclaims in the *Cronica Med. Mexicana* of O tober 1, the extreme efficacy of inhalations of formaldehyde i catarrhal affections of the upper air-passages, due to its sup rior disinfecting power, and its ability to penetrate eve through thick layers of liquids. It destroys the pathogen germs and suppresses the cause of the irritation, leaving t field free for the restorative action of nature. All his patien thus treated have been relieved from the first, and cured in brief space of time. The generating lamp is placed in a met box with a cover easily removed. The patients inhale the fum at intervals, during ten to fifteen minutes.

Quinin Instillations in Suppurative Affections of th Anterior Segment of the Eye.

J. de J. Gonzalez announces that he has found neutral quin hydrochlorate in a 1 per cent. solution—ten drops three tim a day—extremely effective in curing corneal ulcers and a scesses with purulent infiltration in the early stages, and hyp pion if not very large. He explains its efficacy by its mi bactericidal action combined with its paralyzing effect on t leucocytes. The quinin destroys the invading germs, and, paralyzing the leucocytes, prevents their further accumulatic which compromises the transparency and vitality of the tissu The quinin, therefore, is the beneficent mediator between t invaders and the defenders of the organism, and thus saves— arbitration as it were—the transparency in the cornea. course, when its task has been accomplished it should be placed by the individual treatment needed. The instillatio also relieve the pain promptly and effectively, although th induce a slight transient exacerbation at first.—*Anales de talmologie*, October.

Picric Acid in Burns, Eczema and Crural Ulcers.

A careful study of this agent, published in the *Revista M de Chile* for August, by M. C. Vial, concludes by advocati it as "the most rapid and effective treatment of acute eczem the results very satisfactory in the treatment of ulcers of leg, combined with absolute rest. It is a fine antiseptic, a the analgesic action is certain, but its most brilliant results the treatment of burns of the first, second and even third gree, abolishing the pain, diminishing the suppuration and cilitating cicatrization in much less time than usual. Picric id is not dangerous, even for children, used in a moderate lution, and proportioning it to the extent of the lesion and e age and health of the subject."

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[1] Bajardi: Sperimentale, June, 1895.

[2] Klein: Quoted by Bajardi.

[3] Brieger: Die Hernien des Processus Vermiformis. Langenbeck's Archiv, xlv, 1892.

[4] Briancon: These de Paris, 1897.

[5] Stanton, M. C.: British Med. Jour., 1898, ii, 1428.

[6] Van Hook, Weller: Strangulated Femoral Hernia of the Vermiform Appendix. Am. Jour. Surg. and Gyn., vol. ix, 1899, No. 9, p. 172.

[7] Eve, Duncan: Herniotomy with Peculiar Complication; Appendix Attached to Testicle. So. Practitioner, vol. xxi, No. 4, 1899.

[8] Catellani, S.: Note on Presence of Cecum and Appendix in Left Femoral Hernia. Annals of Surg., 1898, vol. xxviii, No. 6.

[9] Van Hook, Weller: Strangulated Inguinal Hernia of a Cystic Ver formis. Trans. Chicago Gyn. Soc., 1895-1896, p. 47.

[10] Rivet, A.: Gaz. des hôpiteaux, 1898, vol. lxxi, pp. 721-724.

Treatment of Bronchopneumonia.

As in the treatment of pneumonia, it is necessary to place e patient under the best possible hygienic surroundings, and increase and maintain free elimination.

In the early stages of the disease a prescription like the fol wing is of service:

℞. Spiritus etheris nitrosi....................ʒiiss
Liq. ammon. acetatis, q.s., ad...............℥iv
M. Sig. Dessertspoonful in water every hour for an adult.

As the bronchial catarrh develops, the air of the room should moistened by steam from water to which has been added me aromatic substance such as eucalyptol.

The harassing cough of this stage may be relieved some nat by a prescription like the following:

℞. Vini ipecacuanhæ....................ʒv
Potassii citratis..........................ʒv
Tinct. opii camphoratæ....................ʒv
Syrupi glycyrrhizæ, q.s., ad...............℥iv
M. Sig. Teaspoonful every two or three hours for an adult.

As the disease becomes well established, a stimulating expec rant is needed to favor expulsion of the viscid secretion and event collapse of the lung and more marked dyspnea. It ust be remembered that the cough is the patient's only pro ction against collapse of the lung and, perhaps fatal asphyxia. is therefore very important that this process be well man ed. For this purpose general stimulants, such as brandy, rychnin, etc., are usually required in conjunction with stimu nt expectorants such as the following:

℞. Ammonii carbonatis........................ʒii
Tinct. sanguinariæ.......................ʒiiss
Spiritus vini gallici.........................℥i
Syrupi senegæ...............................ʒv
Syrupi tolutani, q.s., ad....................℥iv
M. Sig. Teaspoonful every two or three hours for an adult.

Inhalations of oxygen in desperate cases are as valuable in is disease as in pneumonia.

Nervous symptoms may be combated if necessary, by the ss depressing hypnotics, such as paraldehyde, etc.

The following prescriptions have been employed in the treat ent of bronchopneumonia:

HEART STIMULANT.

℞. Camphoræ ....gr. iss-iii
Flor. benzoin...........................gr. iii
Theobromæ ....gr. vi
M. Sig. Three or four times a day.—*Caille.*

BRONCHOPNEUMONIA IN CHILDREN.

℞. Sodii benzoatis.........................gr. viii
Ammonii acetatis......................gr. xxiv
Spir. vini gallici..........................ʒii
Mist. acaciæ
Syrupi, āā..................................℥iss
M. Sig. From one-half to one teaspoonful every two hours. *Marfan.*

℞. Ammonii acetatis......................gr. viii
Sodii benzoatis.......................gr. xxx
Oxymel scillæ...........................ʒiiss
Syrupi pruni virginianæ....................℥i
Aquæ destil...............................℥iiiss
M. Sig. Teaspoonful or more, according to the age, every our.—*Perier.*

When the catarrhal state is very pronounced in a child of years:

℞. Ammonii et potassii tartratis..............gr. i
Sodii sulphatis............................ʒii
Syrupi ....℥ss
Aquæ ....℥iv
M. Sig. A fourth to be given every half hour. As a re lt of the vomiting and purging there is less dyspnea, slower ulse, and an improvement in the general condition.—*Comby.*

During the course of the disease the position of the patient should be changed frequently to lessen the danger of hypostasis in the lungs and decrease the liability to localized edema and atalectasis.

The diet should consist of nutritious liquids—milk, beef tea, broths, etc.—which in the case of young weakly children should be given every two hours, but for stronger children or adults a longer interval is desirable, care being taken that the impaired digestive tract be not further injured by an excess of food.

Diluents may be freely given; plain or carbonated waters, barley water or lemonade, according to the taste and desire of the patient.

During convalescence most careful nursing is required in order that relapses may not occur. A nutritious and easily digestible diet should be maintained throughout convalescence, and this should be augmented by bitter and ferruginous tonics, together with cod-liver oil.

Whether it is desirable to use expectorants during this stage or not is determined by the conditions present, the cough and expectoration being the criteria for their employment.

Should resolution be delayed and the disease tend to become chronic the occasional application of a blister or other counter-irritants to the chest, as, for instance, tincture of iodin, dry cups, etc., together with the internal administration of the iodids, may hasten resolution and absorption.

Durante's Method of Curing Varices.

Strips of very fine catgut are used, stiffened by being soaked for twenty-four hours in Piazza's solution—30 per cent. ferric chlorid and sodium chlorid, āā, 1 gram; aq. dest., 4 grams. The veins are rendered prominent by a ligature tied around the root of the member, and a syringe, such as is used for intramuscular injections of calomel, is inserted in the vein. The strip of catgut, 8 to 10 cm. long, is then placed in the syringe and pushed through into the vein, and the operation is complete unless several veins are operated on at once. The subject remains in bed, the member raised. The veins first swell a little, very slight transient pain is felt, and the skin becomes red and edematous, but these symptoms soon pass away and by the end of a few weeks the former varicose veins can no longer be perceived and can be palpated only as a network of indurated cords.—*Semaine Med.*, October 14.

Intestinal Affections.

I. Boas has derived so much benefit from preparations of lime or lime water in obstinate cases of diarrhea that he advises watering-places with water containing lime at their disposal, to make a specialty of chronic catarrh of the intestines. Chronic catarrh of the colon, he states, is often very favorably influenced by injections of bismuth such as Fleiner recommends for the stomach. Boas considers astringent injections injurious in enteritis membranacea. He reports that he has several times secured brilliant success in cases of habitual constipation by an ether douche on the abdomen. He has also found that hemorrhoid nodules frequently shrivel after injection of a few drops of 50 per cent. carbolized glycerin.—*Deutsche Med. Woch.*, September 28.

Atropia for Asthma.

F. Riegel announces, in the *Deu. Med. Woch.*, of October 12, that the theory of the nervous origin of asthma—that it is due to a bronchial spasm, and as the bronchi are innervated by the vagus, that the asthma is due to irritation of this nerve—is confirmed by the prompt benefit derived from the subcutaneous injection of .5 or 1 mg. of atropia as early as possible in an acute attack. The dyspnea vanishes, and the inflated lungs return in a few minutes to their normal limits. This treatment has failed in only a very cases, and they probably belong to some other category.

Formol in Sinusitis and Fetid Otorrhea.

H. Braat advises daily lavage of the maxillary sinus with a 1 per 1000 solution of formic aldehyd as an excellent remedy for empyema, although care must be taken not to allow any of the fluid to find its way into the stomach. He has also been very successful with it in fetid otorrhea, adding cocain to prevent pain: formaldehyd. 50 gm. to 1 gm.; cocain hydrochlorate, .23 gm., and aq. dest. 25 gm.—*Sem. Med.* October 18.

External Use of Chlorid of Lime.

P. Petit of the French Navy is warm in his indorsement of the advantages of a solution of 100 grams of chlorid of lime in 1200 grams of water, as a very successful antiseptic, neither toxic nor caustic, which dissolves albumin instead of coagulating it, especially useful in preparing patients, vessels, and rooms for operations, at a minimal expense. He has also found it very useful in gynecologic therapeutics: puerperal infection, endocervicitis and inoperable cancer.—*Annales de Liege*, July.

Diet in Intestinal Diseases.

In his new work on intestinal diseases, Boas observes in reference to intestinal stenosis: "beware of universally condemning so-called gas-forming substances, whose troubles usually exist only in the imagination, but take the trouble to arrange a menu for each week, to correspond to the requirements of the individual case. Anyone who follows a printed menu shows that he has no conception of the important rôle played by a diet in modern therapeutics."

Arsenious Acid for Epithelioma.

Forty-five observations have now been published of epitheliomata of the face treated with the Cerny-Trunecek method; thirty-four favorable and eleven unfavorable. It should not be applied until after histologic examination, as it is most successful in the variety of cutaneous epitheliomata resembling senile warts or papillomata, especially when accompanied with a leucocyte infiltration. With neoplasms purely epithelial or resembling sarcoma, it is only successful when there is a predominance or at least an equal proportion of embryonal elements. See Journal, xxxii, p. 247.

Cocain in Uncontrollable Vomiting of Pregnancy.

Swonnikow announces in the *Med. Obos.* for June, that he has been very successful in treating several cases by inserting through a speculum a tampon dipped in a 20 per cent. solution of cocain into the *orificium colli uteri* for three minutes. Two or three applications completely arrested the vomiting.

Abortive Treatment of Gonorrhea.

Motz reports most satisfactory results in twenty-five cases treated by his method: first, lavage of the anterior portion of the urethra with a 1/500 solution of potassium permanganate (section by section). Twelve hours later he rinses out the anterior urethra with a 1/1000 solution, changing then to a 1/2000 solution, and rinsing out also the posterior urethra. If the secretion diminishes and becomes more fluid he continues this lavage of the anterior portion with the 1/2000 solution, and twelve hours later rinses both portions with the same. If on the other hand the secretion does not decrease, then he makes a third and fourth lavage with the 1/1000 solution. Nogués confirmed the efficacy of this method in the preinflammatory stage. "The merits of this method are the possibility of rinsing the entire passage, with no excessive reactions nor acute pains, no urethrorrhagia nor retention, while the results are superior to other methods both therapeutically and on account of the absence of accidents."—*French Cong. of Urology.*

Formalined Alcohol in Night Sweats of Phthisis.

The favorable results attained in hyperhidrosis of the feet by painting with formol encouraged Dr. H. Hirschfeld (*Semaine Med.*, November 1) to apply the same treatment to the general hypersudation of phthisis, and his experience with thirty patients has demonstrated that the tanning of the skin produced by the formol has a most remarkabre effect in arresting the sweats. He paints part of the body, the back and arms one day, the chest and abdomen the next, etc., never using more than 5 to 10 cm. of the solution, which is a mixture of equal parts of 40 per cent. formic aldehyde and absolute alcohol, covering immediately and protecting against inhalation of the fumes. All inflamed or particularly sensitive tissues are avoided. The sweats are arrested at once in the part treated for a period varying from five days to a month—average one to two weeks—when the treatment can be recommenced. No inconveniences of any kind were noted.

Calomel in Lupus.

A combination of local curetting and injections of calomel has cured two more cases, reported in *Med. Obos.* for June.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Alienist and Neurologist (St. Louis, Mo.), October.

1.— Outline of Psychiatry in Clinical Lectures. C. Wernicke.
2.— Degeneracy Stigmata as Basis of Morbid Suspicion. Jas. G. Kiernan.
3.—*Senile Dementia and Marriage. Jas. G. Kiernan.
4.— Hemicrania and Its Relations to Epilepsy and Hysteria. Prof. v. Krafft-Ebing.
5.—*Christopathy and "Christian Science" (so-called). C. H. Hughes.
6.— Legal Disabilities of Natural Children Justified Biologically and Historically. E. C. Spitzka.

Laryngoscope (St. Louis, Mo.), November.

7.—*Rheumatoid Arthritis in Chronic Disease of the Middle Ear. R. A. Bayliss.
8.—*Shall We Use Cold in Acute Middle Ear or Mastoid Affections; If So, How Long? J. Oscroft Tansley.
9.— Epidemic of Pharyngeal and Tonsillar Inflammation and Its Cause. Edward Vestal Mock.
10.— The Intratympanic Masseur. W. R. Weaver.
11.— Hysteria in its Relations to the Upper Air Tract and to the Ear. Theodore S. Flatau.

Colorado Medical Journal (Denver), November.

12.—*Note on Reasonable Control of Tuberculosis. Carroll E. Edson.

Western Medical Review (Lincoln, Neb.), November 15.

13.— Vesical Calculus in the Female, with Report of Case. C. C. Moyer.
14.— Treatment of Hernia in the Aged C. C. Allison.
15.— Thrombus Neonatorum. F. A. Butler.
16.— Adenoids Neglected and Some of the Results. M. H. Garten.
17.—*Value of Prostatic Examination. J. L. Boogher.
18.—*Some Ocular and Aural Manifestations of Hysteria. H. Gifford.
19.— Displacements of Pregnant Uterus. A. B. Anderson.
20.— Paper Braces in Orthopedic Surgery. Fletcher M. Gardner.
21.— Do We Always Do as Well as We Know in Obstetric Practice? J. L. Sutherland.
22.— Iron in Anemia. E. J. Angle.
23.— Abortion. (Continued.) A. D. Wilkinson.

Hot Springs Medical Journal, November.

24.— What is Real Conservatism in Treatment of Appendicitis. Bacon Sounders.
25.— Pathogenesis of Functional Nervous Diseases and Their Prophylactic Indications. John Punton.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), October.

26.— Some Medical Matters of Special Import. Beverly D. Harrison.
27.— Report of Some Cases Taken from my Casebook. H. J. Hornbogen.
28.— Ectopic Gestation. Frank Duane Summers.
29.— Future Provision for Care of Insane. James F. Breakey.
30.— Glorious Climate of Lake Superior Region. Theodore A. Felch.
31.—*Some Points on Nature and Treatment of Acne. John A. Wessinger.

Iowa Medical Journal (Des Moines), November.

32.— A National Standard of Educational Requirements. W. H. Smith.
33.— Appendicitis. J. Neimack.
34.— Thirty-two Cases of Diphtheria; no Deaths; Thirty-seven Immunizations. W. S. Devine.

Canada Lancet (Toronto), November.

35.—*Non-Specific Urethritis. N. E. Aronstam.

Northwestern Lancet (St. Paul, Minn.), November 1.

36.—*Perineal Section. George R. Patton.
37.—*Rheumatic Fever. J. E. McGaughey.
38.— Notes on Functional Disease of the Stomach. J. W. Andrews.
39.— Some of the Little Things. Charles H. Norred.
40.— Reaction of Case of Tetanus to Antitetanic Serum. Edward N Flint.

Peoria Medical Journal (Illinois), November.

41.— Case of Appendicitis. Frank E. Wallace.
42.— Cholera Infantum or Acute Milk Poisoning. Edgar Bolles.

Texas Medical Journal (Austin), November.

43.—*Some Observations on Echinococcus Disease, Especially a Related to Present Epidemic Among Prairie Rabbits. R. Menger
44.—*Bichlorid Baths in Treatment of Variola. R. H. L. Bibb.
45.— Importance of Nasal Breathing in Early Childhood. R. E. Moss,
46.— Sequelæ of Typho-Malarial Fever, Complicated with Early State o Opium Habit Established by Medical Attendants. Chas. J. Vaughan.

Fort Wayne Journal-Magazine (Ind.), October.

47.—*Diagnosis of Tuberculosis. L. Park Drayer.
48.— In Defense of Materia Medica and Therapeutics. Hiram Va Sweringen.

International Medical Magazine (N. Y.), November.

49.— Effects of Influenza on the Heart and Circulation; Their Clinic Manifestations and Treatment. A. Ernest Sanson.
50.—*Case of Myxedema. A. A. Eshner.
51.—*Hemorrhagic Diathesis in Typhoid Fever. J. H. Musser and Jo Sailer.
52.—*Altitude and Heart Disease. Henry Sewall.
53.— Treatment of Syphilis. J. D. Thomas.
54.— Pus and Its Treatment. Edmund H. Holmes.
55.— Treatment of Chronic Asthenic Gastritis (Ordinary Chronic Ga tric Catarrh). Boardman Reed.

Ophthalmic Record (Chicago), November.

56.— Two New Astigmatic Charts. Frederick H. Verhoeff.

57.— Report of Case of Keratectomy. Charles W. Kollock.
58.— Emphysema of Lids Following Fracture of Inner Wall of Orbit from a Fist Blow. Wendell Reber.
59.— Intraocular Hemorrhage Following Cataract Extraction, with Recovery of Useful Vision. James M. Ball.
60.— Piece of Granite in Posterior Chamber Fourteen Days; Intense Pain and Severe Inflammation, with Scanty Discharge of Pus; Enucleation. C. C. Stephenson.
61.— Case of One-Sided Albuminuric Retinitis. L. W. Dean.
62.— Serpiginous Syphilide of Eyelid, Forehead and External Nose. H. V. Würdeman and W. R. Murray.
63.— Cassaripe in Corneal Suppuration. John A. Donovan.
64.— Relative Frequency of Iritis in Syphilis and Rheumatism Observed in 3000 Cases. Randolph Brunson.
65.— Report of Case of Removal of Steel from the Eyeball, and Exhibition of a New Portable Electric Magnet. Walter B. Johnson.
66.— Total Symblepharon of Upper Lid Relieved by Theirsch Skin Grafting. F. C. Hotz.
67.—*Importance of Astigmatism. Robert M. Lapsley.
68.— Clinical Memoranda. Allen Greenwood.
69.— Keratoconus. E. E. Kelly.
70.—*Is Orthoform Always Safe in Keratitis? C. R. Gardner.
71.— Rapid Recovery of Normal Vision Following Hemorrhage in the Vitreous. L. A. Bize.
72.— Report of Two Cases of Herpes Zoster Ophthalmicus—One Complicated by Glaucoma. J. W. Dalby and L. W. Dean.
73.—*Experiences of an Ophthalmic Surgeon in the Army of the Philippines. Nelson M. Black.

Medical Dial (Minneapolis, Minn. , November.

74.— Part of State in Progress of Medicine. Franklin Staples.
75.—*Treatment of Pulmonary Tuberculosis by Inhalation of Antiseptic Nebulæ. H. M. Thomas.
76.— Complicated Umbilical Hernia with Fecal Hernia. J. H. Dunn.
77.— Retroperitoneal Cyst. A. W. Abbott.
78.— Plea for Internal Medicine. Florence C. Baier.
79.— Ovarian Cyst with Twisted Pedicle. A. W. Abbott.
80.—*Further Observations on Treatment of Abdominal Viscera Through Colon. F. B. Turck.

New York Lancet, November.

81.— Notes on Some Interesting Skin Lesions in Practice. Geo. G. Melvin.
82.— Obstinate Hiccough. H. E. Belcher.
83.— Law of Incompatibility in Treatment. J. Gordon Sharp.
84.— Application of Roentgen Rays to Medicine and Surgery. C. Mansell Moulin.
85.— New Method of Closing Peritoneum after Laparotomy. Henry O'Hare
86.— Tumors of Gigantic Size. W. Roger Williams.
87.— Abdominal Pan-Hysterectomy for Fibroid Tumors of Uterus Arthur H N. Lewers.
88.— Extra-Uterine Fibroid; Abdominal Sections; Recovery. C. Stanser Bowker.
89.— Retention of Urine Caused by Retained Menstrual Fluid. Oliver Smithson.

Woman's Medical Journal (Toledo, Ohio), November.

90.—*Contribution to Study of Lung Reflexes, with Report of Case. Marion K. Bowles.
91.—*Is a Trained Nurse Essential in Management of Typhoid Fever? Mary J. Finley.
92.— Dentist and the General Practitioner. Alice M. Steeves.
93.—*Abortion the Exciting Cause of Insanity. Anne Burnet.

Medical Sentinel (Portland, Ore.), November.

94.— Province of the Country Doctor. C. W. Shaff.
95.—*Brief History of Tobacco and Its Effects on the System. Edgar H. Thornton.
96.— Ocular Headache. I. P. Balabenoff.

Memphis Lancet (Tenn.), November.

97.—*Rectal Feeding in Connection with Treatment of Ulcus Ventriculi. Arthur G. Jacobs.
98.— A New Gall-Stone Scoop. M. B. Herman.
99.— Significance of Laceration of Cervix Uteri. H. O. Pantzer.
100.— Report of Eye and Ear Cases Treated in City Hospital in May and June, 1899. Hugh Boyd.
101.— Gunshot Wound of Superficial Femoral Artery and Vein. J. M. Maury.
102.—*Superheated Air in Treatment of Disease. M. Goltman.

Texas Medical News (Austin), October.

103.— Treatment of Anemic Conditions with Pepto-Mangan. T. L. Miller.
104.— Progressive Pernicious Anemia. E. M. Thomas.
105.— Paranoia, with Report of Some Recent Cases. Jno. S. Turner.

Kansas City Medical Record, November.

106.— Protoplasm and the Cell. A. L. Chapman.
107.— Psychic Heredity. Edw. D. Ebright.
108.— Some Remarks on Tertiary Syphilis of the Skin. Wm. Frick.

Virginia Medical Semi-Monthly (Richmond), November 10.

109.— How Best in every way to Promote the Health of Our Children in the Public Schools. J. H. Neff.
110.— Hygiene of School Room. Hugh McGuire.
111.— Care of Eyes of School Children. A. C. Palmer.
112.— School Hygiene: Adapt Studies, etc., to Condiitons. J. H. Claiborne.
113.— School Room Diseases. Frederick Horner.
114.—*Abdominal Surgery with Special Reference to Work in Private Homes. C. Hamilton.
115.—*Backache. Richard Douglas.
116.—*Operation on Cervical Ganglia of Sympathetic, for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.
117.— Pus Involving Viscera and Adjacent Strictures. W. G. Bogart.

Medical Fortnightly (St. Louis, Mo), November 18.

118.— Report of Cases Illustrating Types of Cerebral Hemorrhage. F. P Norbury.
119.—*Physiology. A. L. Benedict.

Pediatrics (N. Y.), November 15.

120.—*Therapeutics of Pertussis. G. J. Kaumheimer.
121.— Cerebrospinal Meningitis in Colorado. Geo. H. Cattermole.
122.—*Neurotic Spine. Henry Ling Taylor.
123.— Pemphigus in a Child 6 Months Old. Ewing Marshall.

Medical Record (N. Y.), November 25.

124.—*A Review of the History and Literature of Appendicitis. Geo. M. Edebohls.
125.—*Morphinism Among Physicians. T. D. Crothers.
126.—*An Epidemic of Intercostal Neuralgia. Thomas F. Reilly.
127.—*Hypertrophies in the Tonsillar Ring. Daniel E. Hardenbergh.

Medical News (N. Y.), November 25.

128.—*Chronic Stiffness of Vertebral Column. Charles L. Dana.
129.—*Vaccinating a Nation. George G. Groff.
130.—*Brief Summary of Indications for Operations on the Stomach. Max Einhorn.
131.— Case of Locomotor Ataxia Beginning in Sacral Cord and Presenting Unusual Sensory Symptoms. Charles J. Aldrich.

Boston Medical and Surgical Journal, November 23.

132.—*Typhoid Fever at Massachusetts General Hospital During Past Seventy-eight Years. Mortality; Intestinal Hemorrhage; Perforation; Relapse. Reginald H. Fitz.
133.—*Value of Blood Examinations in Diagnosis of Camp Fevers; Report of Blood Examinations in Typhoid Fever and in Malarial Fevers. Cases Occurring in the U. S. Army General Hospitals at Fort Myer, Va., and at Savannah, Ga. J. J. Curry.
134.—*Phenylhydrazin Test for Sugar in Urine. I. H. Coriat.
135.— Instance of Urticaria Occurring as an Initial Rash in Typhoid Fever. Frank Woodbury.
136.— Case of Super-Rotation. A. F. Wheat.

Cincinnati Lancet-Clinic, November 25.

137.—*Transmissibility of Morphin. Magnus A. Tate.
138.— Dislocation of Cuneiform Bones. B. H. Blair.
139.— Uterine Hydatids. Otho Evans.

Philadelphia Medical Journal, November 25.

140.—*Some Experimental Studies in Cerebral Localization. George A. Talbert.
141.— Case of Retroperineal Stone. Ramon Guitéras.
142.—*Pathogenesis of Appendicitis. Aloysius O. J. Kelly.
143.— Temperament and Disease, or "The New Humoral Pathology." Albert E. Sterne.
144.— Case of Primary, Non-pigmented Sarcoma of the Left Upper Lid. C. A. Veasey.
145.—*Pathology and Therapy of Cancer, with Special Reference to Cancer of Stomach. A. C. Bernays.

Maryland Medical Journal (Baltimore), November 25.

146.—*Notes on Manila. Lewellys F. Barker.
147.—*Cases Illustrating the Contagiousness of Inherited Syphilis. Louis Kolipinski.

AMERICAN.

3. **Senile Dementia and Marriage.**—Kiernan notices the difficulty that has been experienced in obtaining correct judicial decisions on this subject, and notes at length a case recently before the Circuit Court of Cook County, Ill., and the decision, which annulled the marriage on the ground of senile dementia. The judge's opinion is quoted at length.

5. "**Christian Science**" **and Christopathy.**—See abstract in the report of the St. Louis Medical Society, on another page of this issue of the Journal.

7. **Rheumatoid Arthritis of Middle Ear.**—While resident medical officer at the Royal Mineral Water Hospital at Bath, Eng., Bayliss was impressed with the number of the patients with rheumatoid arthritis who were also deaf, and on making inquiry found no antecedent history of scarlet fever, purulent discharge, nor chronic catarrh, the majority asserting that the deafness had been very gradual and progressive, extending over a considerable period of time. As a rule both ears were affected alike, and the patients were often victims of a troublesome tinnitus, while their hearing, on testing, was distinctly worse for the lower tones. With the tuning-fork, Rinne's test nearly always gave a marked negative. There was nothing striking in the appearance of the drum. It was usually thick and indrawn, the handle of the malleus foreshortened and the anterior posterior folds accentuated. Generally the Eustachian tubes were pervious. He thinks that in these cases, which were resistant to the treatment, we have to deal with a primary affection of the ossicular joints. He suggests, if the ordinary methods of treatment do not succeed, excision of a portion of the membrane and removal of one or two of the ossicles.

8. **Cold in Middle Ear Affections.**—As to the use of cold in acute middle ear or mastoid affections, Tansley comes to the conclusion that its advantages are less than its disadvantages.

It will do to keep the external swelling down and quiet pain, and in this way mask the serious condition that prevails. He calls attention to the fact that it can not kill the microbes, and reports a case illustrating this view of its effects.

12. **Reasonable Control of Tuberculosis.**—The present crusade against tuberculosis has been preached, as in all reforms, by the more radical thinkers on the subject, and there has not always been attention paid to the necessary conditions of vital resistance, etc., as compared with the specific cause. Edsall here notices the extreme views and the measures advised by some, and suggests that the laity are likely to be misled and consider the disorder more contagious than it really is: to undervalue the results of hygienic measures, and thereby receive less good than should be the case. As regards registration and notification, he thinks it impolitic, and rigid quarantine inhumane. It is well to take such precautions as are necessary, and it is said that more cases of consumption now originate in Colorado than was formerly the case, hence, the call for severe measures against the disease. In replying to this he says that the population is also increasing and that more good will be done by relieving under-fed and over-worked individuals, adopting proper hygienic measures, and giving everybody better facilities for light and air, etc., than by quarantine.

17.—See abstract in Journal, October 14, p. 978.

18. **Ocular and Aural Manifestations of Hysteria.**—Gifford reports 3 cases, 1 apparently of simulated hemorrhage of the ear, and the other 2 of hysteric deafness, which occurred in his practice. He mentions 2 of hysteric simulation of ocular troubles, 1 of blindness and 1 of ptosis. While the patience of the physician is often sorely tried by such cases, he believes they are entitled to much forbearance, not only because if uncured they are a nuisance to themselves and their families, but if he fails to make the proper diagnosis and use the proper tact and patience in the treatment, he affords "Christian Science" and other kindred humbugs a chance for some of their greatest triumphs.

31. **Acne: Nature and Treatment.**—Wessinger reviews the facts, so far as known, as to the origin of acne, and notices the bacterial theories of the disease without endorsing them. The treatment which he recommends is that by the static spark, which stimulates the vasoconstrictors and shrivels up the papules. The patient is usually given from three to six sittings, on alternate days. He believes this is a rapid method of curing this annoying affection. The spark must not be too long nor too short, one-fourth of an inch is usually the best, and while it may cause a little pain, it is not worse than the dermocurette in this respect. The rather expensive equipment required is apparently the chief objection to this method of treatment.

35. **Non-Specific Urethritis.**—Aronstam describes two or three cases which he considers non-specific urethritis, and that readily yielded to alkaline treatment. He differentiates the non-specific from the specific by the absence of the specific germs and the presence of other micro-organisms, especially *trichomaines vaginalis*, foreign bodies, hyperacidity of urine, calculi, etc., as the causal factors. There is no definite period of incubation. The duration is from three to four weeks and it does not tend to become chronic. There are usually no complications. The disorder yields readily to alkaline treatment, and may occur at any age. In all these respects it differs from the specific form.

36. **Perineal Section.**—The paper by Patton is based on an experience of eighteen perineal sections, three of which are here reported. He opposes the leaving of the catheter in the urethra, and argues for a little more surgical boldness in this operation. He thinks that an early section followed by a large sound, without a catheter, with a temporary gauze packing held *in situ* by a T-bandage should be, and now is, the usual line of practice in these cases. As regards the difficulty of the operation, he says: Relative to suprapubic section, there is not a scintilla, not even the shadow, of an impediment. But in perineal section, by keeping a finger in the rectum to guard it, viewing constantly the raphe as an ever present central guide, keeping well down the heel of the knife, with its axial line coincident with the axis of the pelvis in making the incision, this operation may be easily made, without mishap, by any vigilant and painstaking surgeon of little experience, who possesses only a modicum of manual dexterity.

37. **Rheumatic Fever.**—McGaughey discusses rheumatic fever, considers its etiology obscure and reviews the methods of treatment in vogue in the past and at present. He thinks that it may be safely asserted that the present treatment of rheumatism since the introduction of the salicylates is more successful in all respects than the former ones, even though there are many cases that do not bear these preparations well. As regards the charge that meningitis and cardiac complications are more likely to occur under the salicylate than under the alkaline treatment, he believes it not sustained by evidence. He advocates placing the patient in the best hygienic surroundings, early and effectual elimination from the bowels and kidneys, a bland nutritious diet, anodynes for severe pain, and the use of the salicylates, bringing the patient fully and promptly under their influence. In case they can not be tolerated, we may resort to the alkaline treatment.

43. **Echinococcus Disease.**—Menger describes an epidemic of echinococcus among the jack-rabbits of Texas. It appears to be common there in dry seasons and he illustrates some of the parasites as they appeared in the muscles, etc. He thinks the species is nearly related to that of man, but there is little danger of its direct transmission. The danger will be through the dogs. He has found the organism in man several times, twice in the liver, between the extensors of the thigh, in the bulb of the eye and once passed from the bowels. He is sure the disease will be found not so rare if proper inquiries are made.

44. **Bichlorid Baths in Smallpox.**—This treatment, which was suggested to Bibb by Dr. T. O. Osborn, was tried by the former with great success in fifty-five cases, only two of which died, both complicated cases and in the early stage of the disease. Drs. Lowry and Parsons, who have used it in several hundred cases in Mexico have informed him that neither has lost a case since they began it. He thinks the facts warrant the following conclusions: 1. Bichlorid of mercury is the rational treatment of variola. 2. Its use will prevent itching, foul odors, pustulation, abscesses and pitting. 3. It will greatly lessen the mortality and suffering from one of the most loathsome diseases that affects the human race. 4. It should be expected to destroy the variolous virus in the vesicles and pustules, thus rendering the scabs and scales harmless, reducing, thereby, to the minimum, the dangers of infection from a given case of smallpox.

47. **Diagnosis of Tuberculosis.**—The principal point in this article is the recommendation of the use of the tuberculin test as the best means for diagnosis in tuberculosis. The objection that it may revive or stir up quiescent cases is answered by the author by saying that this is entirely desirable. The sooner we know the condition the better, whether it excites a latent trouble or not. The only objection which he thinks of any importance is that the reaction sometimes fails to occur, but this is only in advanced cases where the clinical facies is plain. He therefore claims that it is: 1, a safe agent to be employed in the early diagnosis of tuberculosis; 2, the only means to a positive diagnosis in concealed tuberculosis; 3, an agent that can be used with equally certain results in animals as well as in man; 4, one that is far more reliable than the microscope when negative results are obtained.

50.—See abstract in Journal, October 14, p. 983.

51. **Hemorrhagic Diathesis in Typhoid Fever.**—Musser and Sailer report a case of typhoid which succumbed to hemorrhage from the nose, mouth, bladder and bowels. At the autopsy there was found a patulous foramen ovale and the aortic ostium with only two valves, two of them having coalesced. There was a large Meckel's diverticulum about six inches long, containing a typical typhoid ulcer, and a persistent thymus gland. The authors note the infrequency of the association of the hemorrhagic diathesis with typhoid, and refer to the cases that have been reported within the last few years.

52. **Altitude and Heart Disease.**—According to Sewall, the altitude of Denver, instead of being a disadvantage, is decidedly beneficial in some cases of heart disease. The most trouble is experienced in cases of mitral stenosis. He thinks moderately high altitude favorably affects cardiac metabolism, but throws on the heart, especially on the right heart, an increase of burden which is well borne so long as the nutritive

powers of the heart tissues are normal. Higher altitudes may in some cases be intolerable.

67. **Importance of Astigmatism.**—The important questions as to what harm astigmatism does, and whether it increases more rapidly with the use of glasses, is here discussed by Lapsley. He holds that there is greater fear of the condition than the facts warrant. He does not question the importance of the condition, but holds that many patients who suffer from it do not require glasses except for near work, and it is not wise to require all patients with astigmatism to wear glasses constantly. They should be worn to the extent of relief of the discomfort if possible, and it is not advisable to insist on their use further than is actually needful.

70. **Orthoform in Keratitis.**—Gardner reports a case of malignant ulcer of the cornea treated by orthoform, 3 grains to the dram, which seemed to relieve pain, but to produce infiltration and extension of the disorder. It was discontinued and rapid change for the better occurred. The query as to the safety of orthoform in keratitis is answered apparently in the negative in this case.

73. **Ophthalmic Practice in the Philippines.**—Black remarks on the defective examination of the eyes of recruits in some of the volunteer regiments, and mentions a number of striking instances of defects. Of actual disease he had cases of pterygia, purulent conjunctivitis, simple and specific, three or four of iritis and one of idiopathic diffuse retinal hemorrhage which apparently recovered. The men overcome by heat complained of muscæ volitantes, but beyond a slight hyperemia of the disc nothing abnormal was found revealed by the ophthalmoscope.

75.—See JOURNAL, November 4, ¶ 106, p. 1159.

80.—Ibid. November 25, ¶ 98, p. 1350.

90. **Lung Reflexes.**—Bowles describes a case, apparently of asthmatic nature, coexisting with, and as she thinks, depending on the rectal irritation from old abscess and stricture. She has noticed similar cases as far as the lung is concerned, one or two of them denying all knowledge of having a heart or lung complication. She believes that slight trouble in some other part of the body, notably in the sphincter muscles, may cause contraction of the finer bronchioles, and the adventitious sounds thereby produced may lead to unjust rejection of applicants for life insurance. So far as she is able to learn, the literature of these reflexes is limited to contributions by Abrams of San Francisco and Moccuci, both since 1890. Abrams speaks of dilatation and contraction of the lung due to nasal reflexes, but not apparently to the special form occurring from the regions here credited with their causation.

91. **Trained Nurses in Typhoid.**—The question whether a trained nurse is essential in the management of a case of typhoid fever is answered in the affirmative by Finley, who states the reasons for her belief. The nurse is not so alarmed by varying symptoms, and can detect changes unobserved by unskilled individuals. She is more reliable in following the physician's instructions and is directly responsible to him. She is less influenced by personal feelings, is competent to prepare a suitable diet, and the patient is more free to demand her attention. Her independence of officious friends is one of her greatest advantages.

93. **Insanity from Abortion.**—Burnet reports two cases of insanity following abortion, the first apparently due to remorse on the part of a woman with marked insane heredity; the second not so clearly explainable, though there was a collateral insane taint.

95. **Effects of Tobacco.**—Thornton believes that tobacco, even in small quantities, is detrimental to any one unaccustomed to its use, and when taken internally in sufficiently large quantities, deadly poison. The earlier in life the habit of using it is formed, the more decided are its evil effects. Its tendency is to lessen the vital capacity and to render the user impotent, and while many use it without apparent inconvenience, he thinks the prolonged and continued use of any agent with such powerful effects should be discouraged.

97. **Rectal Feeding in Gastric Ulcer.**—Jacobs reports a case of exceptionally severe vomiting of blood resulting from a gastric ulcer. The patient was fed for nine days, exclusively by rectal injections, and then the attempt to introduce a small quantity of liquid food directly into the stomach brought on another severe attack so that the rectal nourishment had to be continued for thirty-two days altogether. Considering the enormous loss of blood and the weakened condition of the body, the success in this case was rather brilliant. The bowels took up the food almost immediately. Another remarkable fact noted was that after having been fed for thirty-two days per rectum, the patient suddenly vomited a large amount of fluid containing hydrochloric and lactic acids. In order to see whether this might not be due to reverse peristalsis, another patient similarly treated was given a teaspoonful of animal charcoal with the injection, and the same material was found ejected in the vomit. The paper shows the possibility and the occurrence of this phenomenon in this case.

102. **Hot Air in Therapeutics.**—The subject of superheated air is treated by Goltman, who believes from his experience and that of others that under no other method will hydrops articuli, functional ankylosis resulting from wearing of apparatus, plastic synovitis, tendosynovitis and sprain disappear as rapidly as after treatment with superheated air, especially when the conditions are acute. The destruction of tubercle bacilli by high temperature makes it worthy of mention that a case of lupus and another of tuberculous arthritis were apparently cured by this treatment. In arthritis deformans it relieves the pain, but if overused it may do harm, and he has almost abandoned its use in this affection. In acute rheumatism, its results are magical. He has on several occasions reduced swelling to the extent of 2½ inches, with one application.

114. **Abdominal Surgery in Private Homes.**—Hamilton describes his method of treating emergency cases of abdominal surgery in private homes. He thinks that the most trouble in these cases is that surgeons do not take the pains that they would take in the hospital or where the surroundings are more favorable, and that they are too dependent on the nurse and the assistant, who prepare their instruments and patient, and are not sufficiently accustomed to look after these themselves. When he can, he takes a nurse with him, but if not, he finds out who is expected to take care of the patient and gives her strict instructions what to do, and then holds her responsible. He has the attending physician see the patient night and morning, if possible, for the first seven or eight days, and if catheterization is necessary he can give attention to it. The nurse is given a fever thermometer and instructed how to take temperature. She is told that if her instructions are not carried out she may be responsible for the death of the patient. As a rule he never allows but two persons, possibly three, to enter the room during the first seven or eight days after the operation, or until the patient is out of danger. He usually himself removes the dressing and sutures on the sixth day. He has had many abdominal operations in private houses, twenty within the last three or four months, with the best results, and he briefly reports a couple of cases.

115. **Backache.**—Backache and its various forms and causes are discussed by Douglas. He first notices lumbago and lumbar pains of the early stages of tabes, which are frequently mistaken for rheumatism. Pain in the back is an important symptom of beginning tubercular osteitis of the vertebræ, and it is important that it should be early recognized. Aneurysm of the aorta is often another condition in which it is an important early symptom, and he goes into details as to the recognition of this condition. He says that in alcoholic and syphilitic patients, especially males, over 40 years of age with evidence of arteriosclerosis, complaining of interscapular or lumbar pains, one should take into consideration the possibility of an aortic aneurysm. Gastric ulcer may cause pain in the back, as noticed long since by Cruveilheir, also kidney disease. Most women have backache, and it is too often credited to movable kidney when other causes may be active. He also notices the various renal diseases which may cause these symptoms, and cautions against too early diagnosis. In conclusion he reminds the readers that there is a chronic functional disorder called neurasthenia. In this perplexing condition who has not seen spinal irritation and backache from axis to coccyx?

116.—See abstract in JOURNAL, October 21, p. 979.

119. **Physiology.**—Benedict considers ferments, absorption and the liver in this installment of his series on physiology.

120. **Therapeutics of Pertussis.**—No infectious disease is

so slightingly considered by the laity as whooping-cough, and Kaumheimer here remarks on its serious phases and complications, showing that it stands high in the list of fatal diseases. He reviews its treatment, going over all the remedies that have been suggested from time to time, such as belladonna, coal gas, formaldehyde, quinin, bromids, the coal-tar products, etc. The one with which he has had the greatest experience, however, and obtained the best results, is bromoform, introduced some ten years ago by Shepp of Munich, and since favorably reported on by various observers. He has used it in about forty cases and prescribes it in drops, the dose being one drop for each year of age, three to five times a day according to the severity of the case and the effect produced. He rather underruns this himself, giving only about three-fourths of the quantity until he has tested the susceptibility of the patient, and gives it in a mucilaginous or syrupy mixture or an emulsion to avoid any troublesome effects on the mucous membrane. The parents should be impressed with the necessity of shaking the bottle each time before administering it, as unpleasant symptoms have been caused by the last doses containing more of the drug than the first ones. It can also be administered by inhalation. A number of cases of intoxication by the drug have been reported, but only one where a fatal dose was given, and in that case 5 to 7 grams at least were taken. The margin between the efficient and poisonous dose, therefore, is very large, and fatal results can hardly follow its administration unless a serious blunder has been made. He thinks that sojourn in the open air is good for the patients and easier for the nurse than trying to keep them quiet in bed. The diet during the disease should be digestible and nutritious, avoiding heavy meats and excess of sweets. The child should be fed often and in small quantities. During the stage of defervescence tonic treatment should be employed. He concludes with remarking on the importance of notification and avoidance of infection.

122. **Neurotic Spine.**—Taylor calls attention to the condition to which he gives the above name, and which consists of a weak back, associated with certain general and local symptoms. The patients tire easily, suffer from backache, and there are usually tender points over certain spinal processes, and often over the sacro-iliac junction, the iliac crests, fossæ and elsewhere. The condition is often readily controlled by slight counterirritation, but a complete and permanent cure requires improvement of the patient's nutrition and *morale*.

124. **Appendicitis.**—Edebohls' paper is a very lengthy and elaborate review of the subject, too detailed to be given here with any fullness. The enumeration of his subheads alone would make an extensive abstract. He takes a surgical view as to the treatment of appendicitis, and believes that the only incisions necessary or permissible are the gridiron one of McBurney, the rectus of Battle and possibly his own, the lumbar incision. His article ends with a list of nearly 400 bibliographic references.

125. See JOURNAL, November 4, pp. 1165 and 1173; November 11, p. 1233.

126. **Epidemic Neuralgia.**—This article reports an epidemic of neuralgia occurring in Reilly's practice, which commenced, as a rule, with malaise and chilliness, followed by uneasiness and pain in the side, quickly becoming almost unbearable. The pain was continuous, with frequent exacerbations. Pulse, respiration and temperature were slightly increased. After two or three hours a profuse sweat began to appear and pain began to diminish, and three or four hours later had entirely disappeared. There was left, however, a general sense of uneasiness, coated tongue and gastric disturbance. The next day or the following one the paroxysm was repeated and the second or third day a herpetic eruption usually appeared, in some cases along the intercostal nerves, but in others elsewhere on the body. In some of the severest cases it appeared on the face or mucous membranes. In more than half the cases a pharyngitis appeared on the seventh day. Other disturbances were pleuritis, papular eruptions, vomiting, and in all cases severe constipation. Four paroxysms were the most observed in any case, but for a period of a week or more following the last one there was a sense of uneasiness with an occasional pain in the affected region, most marked in the morning. Prostration was very marked and perspiration was profuse throughout the disorder. Reilly notes similar epidemics reported by Kaposi and others, and discusses the causation. He thinks it possible that malarial influence may have something to do with it, though in the few patients whose blood he examined, he failed to find the organism, but noticed a marked leucocytosis on the other hand. Quinin seemed to have no effect and a previous malarial history was rarely obtainable. As regards treatment, after the useless employment of quinin, he had recourse to salol and phenacetin, with an occasional dose of chlorodyne or morphin. Strapping the side with rubber plaster gave relief at once, and did more to shorten the disease than all other measures when zoster was not present. A mustard plaster over the affected part was also of service. He notices a recent report of a similar epidemic in a small German city, in the *Muenchener Med. Woch.*, which was restricted to one quarter of the town and was generally credited to some acute infection.

127. **Tonsillar Hypertrophies.**—Hardenbergh's paper is a general statement of the present views in regard to tonsillar and adenoid affections.

128. **Chronic Stiffness of Vertebral Column.**—After the historic introduction, Dana reports cases of Bechterew's type of kyphosis, and notices the other form described by Strumpel and Marie, of which he also reports a case. The latter, which was named by Marie, "spondylosis rhizomelia," usually begins in the hip-joint, and progresses rapidly, affecting the spine and shoulder joints. This is accompanied by very marked rigidity of the spine and some kyphosis, but this is not always very great. There is not much pain nor paresthesia. Bechterew's type usually begins in the spine, and is accompanied with progressive spinal stiffness, arching of the back, and severe intercostal pains. Generally the joints of the hip and shoulders are not very much, if at all, affected. This appears to be a secondary affection and may be caused by a chronic meningitis, or may in some cases be a form of rheumatoid arthritis. As regards the pathology of the Marie type, Dana is inclined to believe that it is only a form of arthritis deformans, though it was not so considered by Charcot. The essential points made against this are: 1. The fact that it directly produces an ankylosis, without any previous inflammatory swelling, with exudation and proliferation; also, that it produces this directly, and not as the result of a deformity with secondary ankylosis, as in the case of arthritis deformans. 2. That it begins in the vertebral joints, and extends thence to the hips and other large joints. 3. That the smaller joints are never affected, or only rarely, in one or two cases. 4. The internal organs and nervous system remain normal. 5. The clinical picture is one of great uniformity. 6. There is no previous history of rheumatism or gout, and no evidence of arthritis deformans in other parts of the skeleton. 7. The affection usually occurs in men in about middle life. In spite of this Dana does not believe that the existence of a specifically new disease is established.

129. **Vaccinating a Nation.**—Groff gives an account of the vaccinating of the natives of Porto Rico, and the stamping out of smallpox, which was there endemic. The total cost of the work was $32,000, and at the present date not a single case of smallpox is known to the military or civil authorities of the island.

130. **Operations on the Stomach.**—After noticing the various operations on the stomach: gastrotomy, gastrostomy, measures to facilitate the outflow of chyme, resection of the stomach, wholly or in part, gastrolysis, gastroplication, and gastroplexy, and their indications, Einhorn concludes as follows: 1. Operations on the stomach for malignant disease should be performed as early as possible. 2. In benign affections the operation should be performed if all other curative means have been exhausted and have failed to produce relief.

132.—See abstract in JOURNAL, November 11, p. 1228.

133. **Blood Examinations in Camp Fever.**—This is a preliminary report based on the experience of the author at Camp Alger, in the summer and fall of 1898, when he was acting as pathologist to the general hospital at that place. He made more than 1000 Widal tests and as many examinations of fresh

blood for malaria and leucocytosis, and thinks the careful examination of the blood in all cases of fever occurring in camp is of the utmost importance. As the Widal reaction occurs in certainly 95 per cent. of typhoid cases, we have a means, of the greatest value for detecting this disease. He also calls attention to the importance of fresh blood examinations as revealing possibilities, such as malaria, leukemia, pneumonia, meningitis, etc. The method used for the Widal test was that of Reed, with dry blood, which has the advantage of being a rapid and also a safe test. The edge of the dried drop was covered with filtered water, and a watery extract of the blood made by stirring with a platinum needle until it was slightly tinged with yellow. A drop of twenty-four-hour bouillon culture of typhoid bacillus was placed on the cover-glass, and then a drop, the same size, of this yellow-tinged watery blood extract mixed with it, the coverslip then inverted over the hollow slide, which had the edges of the ring surrounded by a thin layer of vaselin. This is numbered to correspond with the blood specimen and the time of mounting noted. The time limit is one hour, though the reaction occurs almost invariably within a half hour. He met with twelve cases in which this reaction was obtained and the malarial parasite also noticed. These cases were the mixed form. In but one of these was the malarial parasite found in the course of the fever of typhoid. The author speaks with approval of Thayer's test, given in his book, for the staining of the malarial hematozoon, and he has found very satisfactory for ordinary work for a fixative or dried blood cover-slips, the immersion in a 1 per cent. formalin solution in 90 per cent. alcohol for one minute.

134. **Phenylhydrazin Test for Sugar.**—The following are conclusions of this paper, giving the results of experimental study of this type by Coriat: 1. Phenylhydrazin forms with the reducing sugars, crystalline chemical compounds, each having an individual and definite morphology. 2. Albumin need not be removed. 3. It is possible to recognize any of the sugars by their crystalline forms alone, with recourse to their melting points. 4. Substances that interfere with Fehling's or Nylander's reagents do not interfere with this test, nor form anything that would in any way be misleading. 5. The test is an extremely delicate one, and of undoubted accuracy.

137. **Transmissibility of Morphin.**—The case here reported by Tate is discussed with special reference to the effect on the child of morphin habitually taken by the mother. As to the question of the transmissibility of the drug, he thinks small doses taken by the mouth may not be, and generally are not, discovered in the milk of the nursing woman, because the clinical evidence is not strong enough to point to the source of the existing evil. Large doses produce such marked symptoms in the infant that it seems rational to make the statement that morphin, if taken in sufficient quantity by the nursing woman, will readily be transmitted to the infant.

140. **Cerebral Localization.**—Talbert describes his technic of experimentation for cerebral localization, which is much the same as that of Ewald and consists in closing the openings in the skull—instead of utilizing them for experimentation during or after anesthetization—with ivory plugs containing electrodes so they can be used in the normal condition of the animal after he has recovered from the immediate effects of the operation. He thinks this method can lay claim to peculiar advantages as affording normal conditions and opportunity for repeated experiments, and as a means of lecture-room demonstration, its advantages are obvious. Talbert confirms Ewald's conclusions that the dog does not directly appreciate the stimulation and reacts only by muscular contraction and in no other way, but he does not affirm or deny the second one, namely: that there is no point in the cerebral cortex from which it is not possible to obtain entirely normal and free muscle-response. Still, he says that as far as his observations have extended, in the healthy brain, he has not found any unirritable zones. He disagrees with him, however, in the statement that in the loss of a given area of the cortex the function may be assumed by some other area. Talbert found no such irregularities as those spoken of by Ewald, and he does not attempt to explain the difference in his and Ewald's findings. As a rule, he says, his results of localization do not vary materially from those obtained with the older methods.

142. **Pathogenesis of Appendicitis.**—According to Kelly: "The factors that operate to render the appendix less resistant than other portions of the intestinal tract to the onslaughts of bacteria and other determining causes of inflammation are several. Of prime importance is the precarious blood-supply of many appendices. The blood-supply is defective not alone because of the manifest alterations frequently demonstrable in the walls of the blood-vessels, but also because of the liability of the occurrence of partial or complete obstruction of the blood-channels as a result of angulations, torsions, etc. Of importance in a limited number of cases are doubtless also alterations in the nerves supplying the appendix; but, as already stated, it is believed that they are not of such great importance as has been suggested by Fowler and Van Cott. Finally, in this connection the evidences of retrogression of the organ are not without significance. The factors that in the appendix give rise to increase in the virulence of bacteria normally present in the intestines are such as interfere with thorough drainage of the organ. Defective drainage may supervene when for any reason the appendix is so situated that it can not be readily emptied; when its lumen is constricted either externally by bands of cicatricial connective tissue, tumor-formations, etc., or by cicatrices of its walls, or by obstructions within its lumen, as, for instance, by fecal concretions or foreign bodies; or when the muscular coat of the organ is no longer capable of active peristalsis, as is likely to be the case when the appendix is itself diseased or bound down by adhesions. Congestive disturbances of the appendix or of the cecum may cause such swelling of the mucous membrane as to lead to approximation of the apposed surfaces in the appendix, or occlusion of the outlet of the organ, and thus effectually prevent drainage. Of considerable significance with reference to this question of drainage in the etiology of appendicitis are certain of the anatomic and physiologic peculiarities of the organ above alluded to. Of these I may mention the size and shape of the mesoappendix, the excessive length as compared with the caliber of the lumen of the appendix, and Gerlach's valve. As further conducive to imperfect drainage are the already mentioned torsions and angulations, which interfere not alone with the blood-supply, but also with thorough drainage. Fecal concretions are capable of at least a twofold action. They may not only occlude the lumen of the appendix, and effectually prevent drainage, but they may also by attrition, the result of constant or intermittent peristalsis, cause erosions of the mucous membrane, and thus reduce the power of the organ to resist the attacks of bacteria or their toxins. When of small size these concretions are doubtless often innocuous, but when they have attained a considerable size and are no longer capable of being extruded they may engender the most disastrous results." He holds further that it is evident that no one factor can be held responsible for all cases of appendicitis, although, as a rule, a consequence of microbic infection, the disorder is of complex pathogenesis. The anatomic and physiologic peculiarities of the part render factors that are harmless in the intestines dangerous and disastrous here.

145.—See Journal, November 18, ¶ 130, p. 1285.

146.—See abstract in Journal, November 25, p. 1360.

147. **Contagiousness of Inherited Syphilis.**—Kolipinski concludes from his experience and investigations that there is a certain degree of contagiousness of inherited syphilis though this had been greatly exaggerated. He reports two cases illustrating the fact.

FOREIGN.

British Medical Journal, November 11.

Primary Tumors of Suprarenal Gland and Their Removal by Operation. Henry Morris.—Two cases are here reported of primary tumor of the suprarenal capsule, and the author discusses the condition at length, its pathology, symptoms, diagnosis, prognosis and treatment. As regards the pathology, these tumors may be either glandular proliferations or malignant. The explanation of the former condition is here discussed at length. Morris does not express very positive opinions in regard to their origin, but discusses the theories. The symptoms as summed up by Ramsey are gradual loss of strength, emaciation, gastrointestinal symptoms, pain sometimes referred to the renal region, sometimes elsewhere, occasional anemia or edema, rarely skin changes, abdominal tumor, and in some cases no symptoms whatever referable to the real location of the trouble. Morris thinks that the extreme mobility of the tumor will be in some instances found to be a noticeable symptom and the rapidity of growth and greater frequency of metastases speak for adrenal rather than renal growths. The symptoms useful in diagnosis are in order: tumor in the suprarenal or renal region and a kidney-shaped prominence attached; secondary growths; emaciation and loss of strength; absence of urinary changes or alteration of temperature; occasional pigmentation or rapid growth of hair; gastro-intestinal symptoms and pain. It is rare, however, to find the whole or even the majority of these symptoms in any given case. Tuberculosis of the gland is to be distinguished by the general symptoms of the condition elsewhere. The prognosis is unfavorable. Operation is the only treatment, and if metastases exist the chances are very slight.

Pathology of Milk. G. Leslie Eastes.—The author gives the results of examinations of milk and concludes that "milk which contains pus or muco-pus and streptococci is unfit for human consumption, but unfortunately, according to my figures, this would entail condemning 80 per cent. of the samples I have examined. No farmer, however, dreams of allowing a cow with an inflamed udder to suckle a calf. Why then should he be permitted to sell such contaminated milk for human consumption? Should such milks also contain tubercle bacilli they should be unhesitatingly condemned as unfit for consumption in any form, for example, as butter, cheese, etc. It is my experience that milk derived from pasture-fed cows is less likely to be contaminated than that from cows that are stall-fed. Nor, of course, is this to be wondered at. In conclusion, I would say that the condition of mixed milk should be made more widely known, the conscience of the farmer aroused, so that he may of his own accord isolate those cows suffering from inflamed udders, and not permit their milk to be mixed with that of healthy cows—a practice which in the end would repay the farmer, as the risk of infecting other cows through the milker, and this is, of course, a very real risk, would be thereby minimized."

Bacteriology of Rheumatism and Allied Diseases. A. S. Wohlmann.—The author discusses the facts, so far as known, in regard to the bacteriology of acute rheumatism, and especially rheumatoid arthritis. He seems to favor belief in the genuineness of the Achalme bacillus as the organism of acute rheumatism. As regards arthritis, he does not think the microbe has yet been fully determined.

The Influenza Throat. W. Fleming Phillips.—The author describes a new symptom which he thinks is almost pathognomonic of influenza. It consists of a congestion of the greater part or the whole of the faucial arch, including, as a rule, the uvula and often the posterior part of the soft palate, indicated by increased redness, sometimes being more or less dusky in extreme congestion. The most distinguishing feature, however, is a narrow patch of superficial ulceration on the edge of the anterior pillars of the fauces on both sides, in the chronic condition showing granulation, sometimes exuberant. This condition is painless unless by infection it has passed into the inflammatory stage. The temperature of the mouth may be considerably elevated, while that of the axilla is not.

Local Distribution of Tubercle in Various Species. Woods Hutchinson.—The almost universal involvement of the lungs in the tuberculosis of mammals is noticed, and the absence of lesions of this part in that of birds. The author asks how we are to explain this and whether it throws new light on the channels of infection. Although the lungs of birds are generally free from disease, this is not true of other parts of the respiratory system, the great air sacs, which are especially liable to be attacked by pathogenic moulds.

Some Sources of Infection in Cutaneous Tuberculosis. Robert B. Ward.—The author noticed some peculiar locations of cutaneous tuberculosis, the cause of which is apparently local injury or occupation. In four cases the ear was affected, apparently from piercing the lobule. Three cases occurred in washerwomen, on the wrist and hands. They had been working for tuberculous patients. Seven occurred in the gluteal region, which he attributes to the use of infected chamber utensils. He calls attention to the importance of these and similar sources of infection, and the possibility of reinfection from cutaneous tuberculosis.

Pharmacology of Cannabis Indica. Walter Ernest Dixon.—Experiments on the therapeutic and physiologic action of cannabis indica led Dixon to the conclusion that the drug acts according to the preparation used, fresh hemp being diuretic, while the dry has no such action; and according to the manner administered. When smoked, exhilaration is most manifest, while with small quantities taken by the mouth this is not the case. When an immediate effect is desired the drug should be smoked, the fumes being drawn through water. By the mouth its effects are slower but more lasting. When inhaled, it may be classed with coffee, tea and kola. It is not dangerous and its effects are never alarming. By the mouth it should be rather classed with the narcotics, and while the symptoms produced may be alarming, no danger need be apprehended while the heart remains regular and strong. He believes it to be a very valuable cerebral stimulant when taken by inhalation, and a useful therapeutic agent not likely to lead to abuse, and in proper dosage producing no untoward aftereffects.

Lancet, November 11.

Boric Acid and Formalin as Milk Preservatives. H. E. Annett.—From experiments made with artificial digestion and on animals, Annett finds that the continued use of boric acid and formalin is decidedly deleterious, and he concludes that these chemicals, when used as preservatives of milk—and probably of other foods—are very injurious to the health of the consumer, and particularly so to the health of young infants. Further, it is easy to conceive that the great infant mortality-rate from diarrhea of many of our large towns may be closely connected with the practice, especially during the summer months, of systematically "doctoring" milk by means of preservatives used by milk purveyors, dairymen and milkmen. These experiments on young animals will constitute the first of a large series by which "that sufficient information" as to the injurious effects of preservatives of milk will be provided in order to make an action under the sale of foods and drugs act possible.

Case of Meningitis Presenting Some Pecularities. R. S. Berry.—A case of meningitis in a child is here reported, following trauma of the cerebellar region of the skull, showing itself primarily in general meningitic symptoms and secondarily by pneumonia and extensive ulceration of the interior of the mouth, with also peculiar mental disturbances, unilateral movements of the limbs on the side of the lesion and axial rotations from right to left, or from the side of the scalp wound.

Journal de Medicine de Paris, November 12......... .. ....

By What Signs Can a Physician Affirm That a Woman Will No Longer Conceive. L. Cerf.—A woman of 53, wishing to dispose of some property which had been deeded to her, her children and her children yet to be born, demanded a certificate from her physician that she would not have any more children, but the physician refused to certify that she could never have any more, and reviews the cases on record in which children were born long after the menopause. Renaudin mentions a case in which conception occurred in a woman 61 years of age, ten years after the last menses. Lutaud considers conception possible during the years that follow the menopause, and that sexual activity often continues after the cessation of menstruation, which is also Brouardel's opinion. Cerf concludes: "There is no positive sign of the menopause. The menopause does not necessarily coincide with the cessation of ovulation, and there is no certain sign of inability to conceive."

Journal des Sciences Med. de Lille, November 4.

Three Cases of Cerebrospinal Meningitis, One Cured with Antistreptococcic Serum. Desplats.—Two cases commenced with violent chill, followed by fever and sweats and repetitions of these attacks with deceptive intermissions simulating recovery, until exacerbation of the symptoms and death, while the third patient—treated with antistreptococcic serum—progressed to complete recovery. The idea of using this serum was suggested by an observation recently reported by Rendu in which a streptococcus was the microbian agent. This case commenced with pain in the breasts, lack of appetite, followed next day by greenish vomiting and intense cephalalgia, neck stiff, constipation, eyes brilliant, wild air, etc. Three injections of 10 c.c. each were made, during the first lull in the disease.

Presse Medicale (Paris), November 4 and 8.

Syphilis of Pancreas. Tatouchesco.—After reviewing the brief history of syphilitic lesions of the pancreas, the writer states that there is not a single symptom on which we can base the diagnosis of this affection with certainty. All are common to lesions of the liver or alimentary canal. Glycosuria, rapid emaciation and the salol test are only probability signs. In most cases the organ is hypertrophied and feels hard and elastic like cartilage. The course is similar to that of pancreatic sclerosis from any cause, the subject usually succumbing in two or three years from the total suppression of the gland, although early specific treatment may arrest the lesion.

Experimental Reproduction of Soft Chancre on the Monkey. C. Nicolle.—This communication announces that the writer succeeded in producing two chancres after forty-eight hours' incubation, on the forehead of a monkey, and the animal later inoculated himself with seven others, all containing numerous typical specimens of the Ducrey bacillus the same as in human chancre. A second monkey of another species, much resembling the first, was inoculated with pus from his chancres, and typical ones were produced, but not invariably, and with a tendency to heal not noted in the first. A third one, of still another species, proved completely refractory. This difference in the resistance of different species may explain the negative results obtained by others. Other animals, rabbits, guinea-pigs and mice were also absolutely refractory.

Semaine Medicale (Paris), November 8 and 11.

Interlobar Pleurisy. Dieulafoy.—By this term Dieulafoy designates the purulent, encysted pleurisy which develops between the lobes of a lung. It may follow a pneumonia, but is usually apparently independent, and develops like a primary affection. The amount of pus may vary from a teaspoonful to a quart and more. It is scarcely ever tuberculous, but may be due to various microbes, and the pneumococcus is the most frequent. During the first eight to ten days the adjacent lobes of the lung attract all the attention. Fever, pain in the side, cough, oppression and the signs in the lungs lead to the greatest indecision until the effusion becomes more abundant and the indications more exact. An area of dulness, almost silence, forms in the posterior portion of the thorax, toward the middle if the interlobar pleurisy occupies the horizontal portion of the fissure, and lower down to the axilla and beyond if the pleurisy occupies the descending and oblique portion of the fissure. In this latter case the heart is displaced to the right although Traube's space may have retained its normal resonance. Copious and repeated hemoptysis may occur in the course of interlobar pleurisy, although the subject is not tuberculous. It may appear before or after the vomica and is due to vascular ulcerations of the wall. The vomica may make its appearance in from two to several weeks, but rarely without premonitory symptoms, usually a few rare fetid sputa, preceded by the characteristic odor of the breath. Sometimes the vomica is extensive and the subject expels several hundred drams of fetid, purulent fluid, or it may be expelled in sputa suggesting bronchorrhea or the expectoration of a fetid bronchitis. The vomica may induce the spontaneous cure of the interlobar pleurisy, but if fever and symptoms of infection persist, showing that the evacuation has been incomplete, medical treatment should be abandoned and the surgeon summoned without losing any precious time. Several observations are described in detail, the article filling the entire number.

Round Ulcer of the Stomach in Its Relations to Hysteria. Gilles de la Tourette.—In the course of hysteria the mucous membrane of the stomach, like that of the lung for instance, may be subject to hemorrhage, etc., which proceeds from the direct influence of the neurosis. We know that similar trophic troubles of the skin in time tend to necrobiosis of the tissues involved. The process is distinctly gangrenous and when it occurs in the stomach the gastric juice aggravates it, and the ulceration thus produced resolves itself into a permanent ulcer, under the influence of the gastric juice. In eighteen cases of round ulcer studied, seven were directly traceable to hysteria. The treatment of gastric troubles in hysteria should therefore aim to cure the neurosis, and there is danger in delay. Several observations are related showing the remarkable, prompt benefits of sanatoria and hydrotherapeutics in such cases after long, ineffectual local treatment.

Deutsches Archiv f. Klinische Medicin (Leipsic), lxiii, 5 and 6.

Eosinophilous Cells. Fuchs.—This communication of the results of research in v. Jaksch's clinic states that the eosinophilous cells may originate either in neutrophilous cells or in transformed red corpuscles. They are found in all the tissues and organs; and in the sputum in numerous affections of the respiratory passages not acutely febrile. In every case they should be accepted as protecting elements against the invasion of injurious microbes, but up to the present it has been impossible to determine the exact conditions of their increase and decrease. Neither is it possible to draw any prognostic conclusions in respect to the powers of resistance of the organism from their presence or absence.

Alimentary Glycosuria and Relation to Affections of the Pancreas. Wille.—Glucose was fed to 800 patients with various diseases, with autopsy of 77. In a number of cases showing alimentary glycosuria *intra vitam*, there were no pathologic alterations in the pancreas, and corresponding to these were about an equal number with lesions of the pancreas, who had not shown any glycosuria. In 66 per cent. the alimentary glycosuria coincided with extensive lesions of the pancreas, and Wille concludes that the systematic appearance of alimentary glycosuria is an important diagnostic sign of an affection of the pancreas, that glycosuria may suggest the possibility of pancreatic lesions, but that the absence of glycosuria is not necessarily evidence of normal conditions in the organ.

Clinical Diagnosis of Primary Carcinoma of the Lung. Herrmann.—There are no specifically characteristic symptoms, but by weighing all the signs and indications, general condition, evidences of pressure on neighboring organs, metastasis, investigation of the sputa, puncture and exclusion of other lung affections, it was possible to diagnose primary carcinoma of the lung with tolerable certainty in six cases described.

Centralblatt f. Chirurgie (Leipsic), November 11.

Gastrostomosis to Insure Success of Gastroenterostomosis. O. Witzel.—Rutkowski's suggestion to introduce a drainage-tube after gastroenterostomy, as described in the Journal, p. 1287, is a method that Witzel has been following for years and with the best results, but he insists that the tube must be inserted before the gastroenterostomy, as otherwise it may slip out of place. He uses for the purpose the largest sized Nelaton catheter, with openings only at the end and none in the part in the stomach. The tube is fastened with a strong catgut loop, some milk punch is poured in at once, the patient still on the table. This distension of the distal portion of the small intestine is the only certain means of preventing the establishment of a false route in the upper proximal portion." Witzel urges the termination "osis" for these terms.

Muenchener Medicinische Wochenschrift, November 7.

Tests of Secreting Power of Stomach. F. Riegel.—An observation is described which demonstrates that not every case of hypochylia gastrica should be attributed to a disturbance of the stomach. Troller has shown that the secretion of gastric juice can be excited by the mere act of chewing. The lack of secretion therefore can be due in part to a disturbance in the telegraph which connects the mouth with the stomach, and starts the secretion of gastric juice as soon as food is taken into the mouth. This fact has never hitherto been accorded its due importance. In future this factor should be considered as one cause of the diminished secretion of gastric juice in certain cases. The observation is also interesting because the stomach behaved quite differently with the test breakfast and the test dinner, and only by experimenting with each and combining other methods of investigation was the true condition ascertained. Twelve other typical observations are tabulated, showing the difference in the results with the test breakfast (Ewald-Boas), and the test dinner (Riegel).

Intubation in Private Practice. J. Trumpp.—Eighty-nine physicians in Europe and America contributed their experience on this subject to the writer: 58 are decidedly in favor of and 11 condemn intubation outside of a hospital or without permanent medical oversight. The recoveries were 81.98 per cent. in the 5468 intubations reported, since serum treatment, 36 per cent. before. Most were done by the 11 American physicians consulted, 4066, recoveries 81.5 per cent.; while the 42 European ones only report 1402 intubations, with 82.04 per cent. recoveries. Two deaths occurred from obstruction of the tube; 10 from auto-extubation, and 1 from stenosis following extraction of tube; 13 in all. Trumpp concludes by urging all general practitioners to familiarize themselves with the technic and be ready to practice this whenever required, and the earlier the better.

Bacteriuria. A. Predoehl.—The prognosis of bacteriuria is dubious. Although it may seem perfectly harmless in many cases, yet it is always difficult to remove and may be followed by serious consequences, as in two observations described. In one the capillaries of the kidney had evidently become obstructed by the bacterium coli, with fresh pains and attack of fever at the formation of every new infarct, the symptoms finally becoming so severe as to require ablation of the organ, which was found sterile in respect to bacteria and cultures, while the pathologic-anatomic picture did not conform to any yet described. Recovery was prompt and complete.

Wiener Klinische Wochenschrift, November 2 and 9.

Symptomatology of Acromegalia. F. Chvostek.—A typical case of acromegalia is described in which the presence of alimentary glycosuria, paroxysmal hemoglobinuria and peculiar swellings of the joints sustain the theory of vasomotor disturbances in the etiology of acromegalia. The occasional exacerbations and complete disappearance of the glycosuria and hemoglobinuria rendered any severe organic lesion improbable, while the constant alterations found in the vascular system in acromegalia support this theory, also the connection between alterations in the vascular system and the skeleton. The depth of the vessel grooves, and the size of the vessel foramina in comparison to the diminished size of the nerve foramina, attract attention at once in studying the macerated bones in acromegalia. It is also always accompanied by lesions of the arteries and with occasional alterations in the blood, such as a decrease in the number of red corpuscles and in the amount of hemoglobin, although there is no constant change in the blood. Chvostek suggests that these changes in the vascular system may indicate the share of the hypophysis in the production of the process, as Cyon asserts that the hypophysis has the dual function of producing a substance like iodothyrin, which influences the innervation of the heart and vessels, and also operates a protecting apparatus at the slightest alteration in the pressure in the interior of the skull, and thus regulates disturbances in the intracranial pressure. If his assertions are confirmed we can assume that morbid changes in the hypophysis lead to disturbances in the innervation of the vessels and to changes in the vessels, and that these lead to disturbances in growth. Clinical observation and post-mortem findings all support this tropho-vasomotor conception.

Acute Fatal Edema of Lungs After Thoracocentesis. N. Ortner.—Careful study of three personal and nine recorded cases of acute fatal edema of the lungs after puncture establishes the cause as due to the abnormal permeability of the blood-vessels of the lung compressed by the effusion, unable to stand the pressure of the blood rushing in after evacuation. There is frequently concomitant insufficiency of the heart. The edema is more readily produced and more dangerous if, besides the effusion and the cardiac weakness, there are morbid changes which interfere with or prevent the compensating shifting of the mediastinum; such as extreme dilatation of the heart, *concretio pericardii cum corde et pleura* or mediastinopericarditis fibrosa. Before attempting thoracocentesis we must ascertain the conditions, and if there is reason to assume that the locomotion of the mediastinum will be hampered, the possibility of fatal edema must be borne in mind. The evacuation must be made very slowly, preceded and accompanied with stimulation of the heart—alcohol, digitalis, possibly plumbum aceticum—and the puncture interrupted in case of immovable mediastinum if violent coughing occurs. Ortner adds that he found Curschmann spirals and clots of fibrin numerous in the sputa.

Status Thymicus. M. Laub.—Four observations are described, all young persons between 17 and 23, in the midst of perfect health, who suddenly succumbed with severe cerebral phenomena, coma, with convulsions or vomiting, and death in eighteen hours at the latest. There was albuminuria in all, also hematuria in one. The spleen was hypertrophied in all, and the follicles at the base of the tongue in three. The autopsy disclosed cerebral edema in all and hyperplasia of the persisting thymus, hyperplasia of the entire lymphatic system and more or less intense hypoplasia of the vascular system, especially of the aorta—typical specimens of what Paltauf calls the "lymphatic-chlorotic constitution-anomaly." The writer considers this constitution a predisposition to the formation of cerebral edema, only awaiting some slight stimulus, which may be either psychic or physical; a fright or an insignificant affection may be sufficient to start its evolution. This predisposition may be the cause of the sudden deaths during or after chloroform narcosis, or pleural effusion. On account of their vulnerability such persons are always in unstable equilibrium, and the slightest cause may induce fatal results. He suggests the term "cerebral type of status thymicus," distinguished by its longer course, and the cerebral edema, which does not have time to form in the suddenly fatal cases.

Electric Stimulation of the Corpora Quadrigemina. J. Prus.—The conclusions of the extensive research on dogs described in this communication are: 1. The motor centers chiefly affected by optic stimulation are located in the anterior lobe of the corpora quadrigemina, while these centers of the posterior lobe are chiefly stimulated by acoustic impressions. 2. There is a center in the anterior lobe which, in pathologic conditions, induces tonic contractions, while a similar one for clonic contractions is located in the posterior lobe. 3. There are reflex tracts in the anterior lobe, for the respiration, the vagus and the vasomotor nerves, and in the posterior additional centers for the co-ordination of reflex movements and a sound-forming center. These facts explain the clinical observation that with lesions of the corpora quadrigemina there appear disturbances in the movement of the eyes, inco-ordination of the muscles used in standing or walking, trembling, dilatation of the pupils, exophthalmus and disturbances in the sight with lesions of the anterior lobe, and disturbances of the hearing with lesions of the posterior.

Societies.

COMING MEETINGS.

Indian Territory Medical Association, Wagoner, December 5-6.
North Central Illinois Medical Association, Mendota, December 5-6.
Southern Surgical and Gynecological Association, New Orleans, La., December 5-7.
Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.

Des Moines County Medical Society.—The annual meeting of this Society was held at Burlington, Iowa, November 15, and the following officers elected: president, J. W. Dixon; vice-president, George Kinney; secretary and treasurer, A. C. Zaiser.

Inter-County Medical Association.—This Association has just met at Eau Claire, Wis., and elected the following officers: president, H. M. Reid, Menomonie; vice-presidents, M. S. Hosmer, Ashland, and F. R. Reynolds, Eau Claire; secretary and treasurer, J. J. Selbach, Eau Claire.

N. Y. State Association of Railway Surgeons.—The ninth annual session of the Association was held November 16, and the following officers elected: president, J. L. Eddy, Olean; first vice-president, Wisner R. Townsend, New York City; second vice-president, H. P. Jack, Canisteo; secretary, C. B. Herrick, Troy; treasurer, Theodore D. Mills, Middletown; chairman of executive committee, George Chaffee, Brooklyn.

Antitobacco Congress.—Among the other international gatherings in Paris next year, there is to be an antitobacco congress. We have received from the president of the committee on organization, the circulars relating to it, with the program of the subjects to be considered. These include the history, chemistry, pathology, hygiene, the treatment and prophylaxis of nicotinism, together with the social and economic bearings of all the questions relating to the use of tobacco. The session will be Aug. 20-25, 1900. Communications relating to the Congress may be addressed to the president, M. Decroix, Rue de St. Benoit, No. 20 bis Paris.

Montreal Medico-Chirurgical Society.—This Society held its twenty-ninth annual meeting recently. The report of the treasurer showed that the receipts for the past year were $674.75, expenditures $408.08. Altogether the total assets of the Society now reach $905, with no liabilities. During the year eighteen regular meetings were held, the average attendance being 42. At the largest meeting there were 72 members present and 18 visitors. Twenty-two new members were admitted to membership, including four women. The total membership is now 162. The work of the year consisted of 5 general discussions; 12 papers; 31 case reports; 9 living cases; 33 pathologic specimens, and 5 demonstrations. Considerable general work was done as well, such as the formation of a central hospital board, the consideration of the enactment of legislation in the dominion parliament recognizing the British Pharmacopeia as the official Canadian Pharmacopeia, with representations to both the dominion and provincial legislatures on the necessity of regulations to prevent tuberculosis, and the appointing of a committee to organize a Canadian addendum to the British Pharmacopeia. Dr. Adami was re-elected president for 1899-1900. In reviewing the work of the past year he referred to Dr. Armstrong's demonstration of a case of Charcot's joint disease, and Hamilton's remarkable one of congenital absence of the clavicles. Among the pathologic cases and specimens, he mentioned Anderson's unusual case of cephalhematoma with bony development, and Wyatt Johnston's demonstration of a characteristic biologic test for the presence of arsenic in tissues by means of growth of a special form of *penicillium.* There were several case reports of more than passing interest: Birkett's case of the presence for a long term of years of a foreign body—a thimble—in the nasal passages; Lapthorn Smith's case of operative treatment for the relief of urinary incontinence in the female; another by Finley and Wyatt Johnston on a case of double proptosis due to thrombosis in the cavernous sinus; the description of the value of lumbar puncture in cases of tuberculous meningitis, with notes of a case in which the bacilli were found, by Lafleur; the presentation by Stewart and Shires of tumor in the pons, throwing light on the centers for the fourth nerve; the study of hemiplegia following scarlet fever, by Bazin; Elder's cases of fracture of the base of the skull; and Bell's case of huge subcoccygeal teratoma. All practitioners of good standing, irrespective of sex, may become members.

Tri-State Medical Association of Mississippi, Arkansas, and Tennessee.

Sixteenth Annual Meeting, Memphis, Tenn., Nov. 14-16, 1899.

FIRST DAY—AFTERNOON SESSION.

PROGRESS OF MEDICINE.

DR. FRANK A. JONES, Memphis, Tenn, gave an address which was a consideration of some of the diseases that most concern the general practitioner, and of the progress being made in their study. He said: Malaria is undergoing careful study. The relationship between it and the mosquito is conclusively proven. Quinin is contraindicated in malarial hematuria, and the consensus of medical opinion is that it is the result of neglected malaria.

Typhoid fever is controlled by the use of water; not the Brand method, but by simply sponging. Water is the one antipyretic. More liberal diet should be given typhoids; treat the patient not the disease.

The climatic treatment of tuberculosis remains the best. Koch's tuberculin may be very satisfactorily used in diagnosis. The application of Colles' law in cases of tuberculosis seems logical. The negro is especially liable to this disease, because he is naturally below par. The pathologic changes in tuberculosis and syphilis are closely akin.

In appendicitis physicians and surgeons are now not so far apart, since the interval between attacks is now conceded to be the proper time for operation.

CASE OF HUMAN MONSTROSITY.

DR. ALFRED MOORE, Memphis, Tenn., reported a case, the product of an abortion at the sixth month, the father with a history of syphilis. The mother, but 16 years old, suffered no serious results. It was a case of acrania, presenting a peculiar, frog-like appearance.

MANAGEMENT OF THE INSANE.

DR. N. F. RAINES, Memphis, Tenn., physician to the Shelby County Poor and Insane Asylum, read this paper. He endeavored to prevent the patient brooding over his condition, and objects to the words "insane asylum," preferring "hospitals for the insane." He makes the institution one of active treatment. His method consists in cleanliness, light, fresh air, exercise, patience, kindness and liberty for the unfortunates. Exercise in moderation must be given—light work and good walks make them sleep. Pleasure must be given in as many forms as possible, in order to make them forget their woes. Music, cards and outdoor games are encouraged. He endeavors to make the inmates respect each other. Food affects one's mental development, so he sees that the food is carefully selected and prepared. He objects to the congregate table, believing that the patients should be kept more or less apart at meal times. Total restraint must be practiced in some cases, mechanical here having its advantages. Individualization is the *sine qua non* of treatment. Each case should be accurately diagnosed. Hospital treatment is better than that of the private home. Fresh air, fresh, pure food and the best environment are the necessities for successful treatment, and medicines to be used when indicated.

MEDICAL SERVICE IN ST. JOSEPH'S HOSPITAL.

DR. WILLIAM KRAUSS, Memphis, Tenn., made a report of four months' service in the medical department of St. Joseph's Hospital. The vast majority of the cases treated were malarial. There were 5 of hematuria with 1 death, this occurring in the stage of congestion. In 355 of fever only 4 were typhoid, this being proved by the Widal test, temperature-curve and clinical symptoms. Four of estivo-autumnal fever simulating typhoid were observed, but they did not have the temperature-curve nor give the Widal reaction, and showed malarial organisms. In malignant forms of malaria he got the best results by using, at the height of the paroxysm, hypodermics of quinin largely diluted with water.

FIRST DAY—EVENING SESSION.

THE GRAIN OF TRUTH AND THE GRAIN OF SALT.

DR. E. H. MARTIN, Clarksdale, Miss., in his presidential address on the subject, said: Medicine can never be an exact science in all its parts. To become such it must hold forth a specific for each disease. We must reject nothing, as in every superstition there is a grain of truth. The homeopath can not consistently practice his art. The regulars have appropriated the best in the homeopathic practice. The Keely cure effects results by its atmosphere. The doctor may do anything to cure his patient, even to sending him to a fake, if that will cure him. Be careful of the finished theory and have ready your grain of salt. Look for truth everywhere.

DISEASES OF THE EAR, NOSE AND THROAT IN THE NEGRO.

DR. E. C. ELLETT, Memphis, Tenn., offered these conclusions: 1. The negro enjoys a singular immunity from catarrhal inflammation. 2. He is prone to tuberculosis and syphilis. 3. He affords ample opportunity to study the natural history of disease without treatment.

As regards the eye, blepharitis is rare, epithelioma practically unknown, acute catarrhal conjunctivis very uncommon. Trachoma is also rare. Corneal affections are general, especially phlyctenular keratitis. Corneal ulcer is a most common disease. The uveal tract rivals the cornea in frequency of occurrence of disease. Simple cyclitis is rare. Iritis is most common. Few cases of retinitis present themselves. Cataract is apt to develop early and frequently. Toxic blindness is rare, primary glaucoma also. No cases of hemorrhagic retinitis had come to the author's notice. No special errors of refraction had been found, and rarely does squint occur. Blindness can be classified into corneal opacity, neglected iritis, optic nerve degeneration. Where a diagnosis can not be made, atropin will usually yield a good result.

A roomy nasopharynx probably exempts the negro from catarrhal inflammation. Few chronic diseases of the negro occur, hypertrophied tonsils are rare, tonsillitis is not common, and adenoids do not occur in the negro. He is an unwieldy, unwilling, unsatisfactory patient.

ENTEROCOLITIS IN CHILDREN.

Dr. A. B. DeLoach, Memphis, Tenn., after recapitulating the well-known predisposing causes and classic manifestations of this disease, entered into a consideration of its treatment. Dietetics play an important part in the treatment. A purgative should be given at once. Milk should be advised, skimmed, boiled and peptonized if necessary. Rice-water and beef juice are excellent. Do not give too much. Two to four hours should elapse between feedings. Rectal irrigation should be practiced with salt solution or boric acid solution. He condemned enemata of nitrate of silver. A catheter should be used in irrigating the bowel. Change of locality in summer is often a valuable measure of prevention. Prognosis is influenced by hygienic surroundings, nourishment, etc.

CHOLERA INFANTUM.

Dr. A. G. Dickson, Paragould, Ark., read a paper on this subject. It consisted of a summary of the well-known symptoms of this disease, drawing a picture of the clinical manifestations of the condition.

ABSCESS OF LUNG FOLLOWING PNEUMONIA.

Dr. J. H. Reilly, Memphis, Tenn., contributed a paper with this title. In this condition the temperature rises, there are rigors and sweats. Nothing is apparent on percussion. Necrosis continues until a bronchus is reached. Cavity signs are then noticeable. Microscopic examination shows fibrinous strings, pus germs, but no tubercle bacilli. Fetor is not present, nor great depression.

Abscess of the lung can be mistaken for pleural infection. The exploring needle should be brought into use. He reported a case of abscess of the lung. No tubercle bacilli were found, but Friedlander's bacillus and strepto-and staphylococci were present. Operation was performed with good result, considering the severe condition. A second attack of pneumonia carried the patient off with metastatic abscess of the kidney. In another case the microscope showed fibrinous lung tissue and Friedlander's bacillus. Treatment of abscess of the lung should be purely surgical—opening and draining the cavity. The prognosis is influenced by the size and number of abscesses and general condition of patient.

Second Day—Morning Session.

ABSCESS OF LIVER, WITH REPORT OF A CASE.

Dr. E. M. Holder, Memphis, Tenn., read this paper. Abscess of the liver is a tropical disease associated with dysentery, hepatitis, confinement, phlebitis, and pyemic abscess. The symptoms are aching pains in the liver and right shoulder and furred tongue. Jaundice is rare. The treatment should consist of incision and drainage. The liver should be stitched to the abdominal wall. Operation in two stages is condemned, that in one stage, under aseptic conditions being the best. Incision is made in the mid-axillary line. A rib should be excised. A case typical of the condition was reported, which was operated on successfully.

CAUSE, DIAGNOSIS AND TREATMENT OF RETRODEVIATION OF UTERUS.

Dr. W. B. Sanford, Memphis, Tenn., took this subject for his paper. Displacement of the uterus gives rise to many complications. Retroversion is a forerunner of retroflexion. Displacement is likely to occur during menstruation. Great care must be exercised during these periods. Nine-tenths of the cases of sterility that come under the author's observation are the result of a misplaced uterus. Deviations rarely occur during pregnancy. Diagnosis is usually easy. Nervous and hysteric symptoms are usually present. In arriving at a diagnosis a sound is used. The prophylactic treatment consists of toning up the system with tonics and diet and the use of a pessary. Long walks should be avoided and the bladder and rectum kept empty. The surgical procedures used in the correction of this condition are ventral fixation, curettage, repair of any injury.

ARGUMENT IN FAVOR OF EARLY USE OF FORCEPS.

Dr. Edwin Williams, Memphis, Tenn., contributed a paper with this subject. The use of forceps saves the mother a continuance of pain, especially if she be a primipara. Usually there is no danger consequent. When the head is low the rigidity of the perineum and stenosis of the vaginal orifice are diagnostic indications for the use of forceps. Central perforation can be avoided by the use of forceps. Cases were cited to conclusively prove this statement. Do not leave the labor in charge of a dose of quinin. Forceps should be used early, and usually no laceration occurs. He waits one-half hour after labor sets in and then applies forceps.

Second Day—Afternoon Session.

SOME POINTS IN MALARIAL HEMATURIA.

Dr. W. T. Wilkins, Lewisburg, Miss., presented his paper on this subject, saying that malarial hematuria is not a disease per se, but a sequel of neglected malaria. There is blood disintegration which gives rise to the symptoms, nausea, jaundice and bloody urine. There is a secondary congestion of the spleen, due to overwork, but no lesion of the liver or kidneys. Quinin may bring on an attack. The treatment consists of elimination and support. Uremia is the most common cause of death.

PSEUDO-SMALLPOX IN GIBSON COUNTY, TENN.

Dr. T. J. Happel, Trenton, Tenn., read a paper with this title. After giving in detail the symptomatology of true smallpox, he related his exprience. On June 1, 1899, he was called to see several cases of supposed smallpox at Fruitland, Tenn. These lasted two weeks. No attempt was made to isolate them. In one woman there were not more than two dozen vesicles over the entire body. Later a confluent case with large blebs was seen. No pits were left. Persons vaccinated did not escape. Others in infected families did not necessarily have this pseudo-smallpox. The younger the subject, the milder was the disease. Vaccination had no effect whatever. He reported cases of entire families successfully vaccinated and still suffering from the disease. The difference between the two diseases is that there is no ulceration left; there is desiccation and not suppuration; no secondary fever. The initial fever, backache and headache are the same, but all eruptive fevers have the same train of symptoms. In this pseudo form vesicles appeared as late as the sixth day. In variola the eruption is, as a rule, in the pustular stage, hemispherical—in this form it was conoidal in shape. In true smallpox the patient begins to fight for his life on the eighth day; in this form they begin to recover then. There was no mortality in the pseudo form.

VESICAL CALCULI IN CHILDREN: REPORTS OF FOUR CASES.

Dr F. D. Smythe, Memphis, Tenn., read this paper. His cases all occurred in children under 5 years of age. Thompson, in a series of 1000 cases, found that 60 per cent. occurred between the ages of 60 and 70 years. Only three were reported in patients under 16 years of age. Three varieties of this stone interest surgeons, viz.: the uric acid, phosphatic and oxalate of calcium. After reporting his four cases the author arrived at these conclusions: 1, vesical calculus occurs at all ages, increasing with each decade up to 50; 2, the stones are neither climatic nor dietetic in origin, but insanitary conditions and bad diet are factors in their production; 3, the majority of cases occur between 50 and 70 years of age, and overeating, lack of exercise, and failure to eliminate products of waste are active causes; 4, vesical calculus occurs more frequently in the negro than is generally thought; 5, the same symptoms are greatly aggravated in children, and should insure a thorough examination; 6, the value of rectal and bimanual examination can not be too strongly advised; 7, the rectal bag is not only unnecessary but dangerous in operations; 8, the bladder, when badly diseased, should be left open for drainage and rest; 9, bladder walls that are healthy should be closed by Lembert's suture, animal material, and dropped back into the cavity with no provision for drainage; 10, the treatment is essentially surgical, the suprapubic operation being the ideal one; 11, the retention of a catheter is unnecessary in children; 12, females are almost exempt from bladder stone, due to position, patulency and dilatable urethra.

THE MOSQUITO AS A DEFINITE HOST IN MALARIA.

Dr. William Britt Burns, Deckerville, Ark., contributed a paper on this subject. He took up the anatomy of the mosquito and described it at length. Only certain varieties carry infection.

HOT SCRUB-BATHS, AN IMPORTANT FACTOR IN TREATMENT OF MALARIAL COMPLICATIONS.

Dr. C. R. Shinault, Helena, Ark., read his paper on this subject. He was led to use hot scrub-baths in the treatment of fevers of malarial origin by seeing how rapidly cases of this condition would improve on going to Hot Springs, where the principal thing, if not all, is the simple hot scrub-baths which they get. The patient should be submerged up to his neck, in a temperature of about 90 degrees, and this gradually brought up to 105 and higher, if necessary, to produce a free diaphoresis. After ten or fifteen minutes the patient should be well soaked and scrubbed with just as hard pressure on the brush as he can bear. The hot water and soap, which softens the epidermis, remove the accumulated secretions. This form of treatment is especially indicated in all low grades of fever in that it does not lower the vitality like the coal-tar derivatives, and particularly in those cases of intestinal paresis where elimination is interfered with through the alimentary canal.

Second Day—Evening Session.

A RECTAL CURIOSITY, WITH REPORT OF CASES—SOME POINTS IN PELVIC SURGERY.

Dr. J. L. Jelks, Memphis, Tenn., read a paper with this title. The case was one where an injection of carbolic acid had been made for the purpose of curing some hemorrhoids. When the speaker was called in, the whole area within a large radius was sloughing away. This operation is dangerous, as is manifested in the fact that the patient thus treated is now dying of sepsis. The patient, as described by Dr. Jelks, presented this appearance: The perineum had entirely sloughed away; the anterior or perineal half of the sphincters was gone; pus had undermined all the muscles of this region and the bowel was protruded, engorged and inflamed, the mass being of the size of a large cocoanut, and eroded and gangrenous in appearance. The only procedure that the author thought possible in this case was that suggested by Dr. Joseph Mathews, i. e., to enter the abdomen over the sigmoid, and after drawing upon and replacing the prolapsed bowel, anchor it by a continuous suture to the abdominal wall, thus offering an opportunity to drain, by incision, the undermined structures of the pelvic floor. The next step would have been the building up of a perineal body from the surrounding tissues, and the closing in of the parts in the best possible way; then if too much of the sphincter had not been destroyed, the suturing of its ends. The moribund condition of the woman precluded operative procedure for her relief.

THE RECTAL VALVE: AN ANATOMIC FACT AND A PATHOLOGIC FACTOR.

Dr. A. B. Cooke, Nashville, Tenn., followed with a paper on this subject. The rectal valves were long misunderstood. Houston said there may be two, three or four arranged to form a spiral tract down the gut; they are semilunar in shape. Their function is the support of the fecal mass. Nélaton described the third sphincter ani muscle. Kelsey denied the existence of these valves. Mathews can not find these folds. Gantt says the valves become obliterated when the bowel is distended, but this statement is erroneous. Dr. T. C. Martin, Cleveland, Ohio, subjects all patients to proctoscopic examination. There are three valves constantly present. Only the first, or at most the first and second, rectal chamber can be entered by the fingers. A proctoscope must be employed. He says that the rectal valves, either abnormally or congenitally, are the cause of all benign strictures. Tubular stricture is a simple progressive annular one. Traumatism due to ejection of costive stools brings about hyperplasia of the valves. The valves are a factor in chronic constipation. Physiologic retardation merges into pathologic obstruction.

OBSTIPATION AND ITS PRACTICAL MANAGEMENT.

Dr. Thomas Chas. Martin, Cleveland, Ohio, read the next paper, on this topic, saying: Obstipation is the obstruction by anatomic factors which retard defecation. Constipation is the remaining of the feces in the higher portion of the gut. Inflammation of the rectal valves fixes them across the rectum and constitutes benign stricture thereof. Patients are usually neurasthenic. The proctoscope should be introduced and the valves grasped with a sharp hook. The mucous membrane and fibrous tissue only should be grasped and transfixed with a bistoury. The valve should be cut in two places. Several cases of obstipation treated by valvotomy with excellent results were reported.

INJURIES TO PATELLA: REPORT OF CASE OF STELLATE FRACTURE.

Dr. William D. Sumpter, Nashville, Tenn., chose this subject for his paper. Dislocations of the patella form 1 per cent. of all dislocations. Diagnosis is easy on inspection and palpation. Fractures of the patella are caused by violent muscular action of the quadriceps extensor muscle, or by direct violence. Treatment should be relaxation and rest; bandage and suture; adhesive strips, U-shaped to secure a good knee-joint; ice and pressure at once. He reported a case of stellate fracture operated on by incision longitudinally. He emptied one-half pint of fluid, and sutured with silver wire. After seven weeks the patient was allowed to walk on crutches.

Third Day—Morning Session.

TYPHOID FEVER: SOME COMPLICATIONS AND SEQUELAE.

Dr. A. E. Cox, Milan, Tenn., read this paper, which discussed the subject from the standpoint of results of latter day investigations.

THE MOUTH AND ITS CARE IN THE SYPHILITIC.

Dr. C. Travis Drennen, Hot Springs, Ark., was the next essayist. In his paper he said that careful attention should be given to cleanliness of the teeth, mouth and gums. Cleansing the teeth with a hard brush is the advised method. Nicotin must be avoided. Boric solution can be used constantly. The teeth should be repaired by a dentist and the teeth, tongue and gums rubbed clean every day.

SOME OBSCURE AND OBSTINATE FORMS OF NEURALGIA.

Dr. Henry Posert, Memphis, Tenn., read this paper, saying that supraorbital neuralgia is difficult to treat, and occipital is another resistant variety. Dorsal neuralgia may be very obstinate. Hot baths and faradism will usually relieve gluteal neuralgia, but the hysteric form must be carefully diagnosed. Neuralgia of the toes can now be relieved by a shoe made for the purpose.

REPORT OF A SERIES OF GYNECOLOGIC CASES.

Dr. T. J. Crofford, Memphis, Tenn., contributed a paper on this subject. In the first case cited the woman attempted to produce an abortion with a hair pin bent and introduced into the cervix. This was extracted without her purpose being accomplished. Another case was one of peritonitis, which was operated on and a perforated bowel stitched. Adhesions of the intestines, omentum and vermiform appendix were broken up. Recovery followed. A third case was one of perforation of the intestine by gunshot wound. The abdomen was entered and perforations stitched. Recovery was uneventful.

THE SUPRAPUBIC VS. THE VAGINAL METHOD OF DEALING WITH PELVIC INFLAMMATORY TROUBLES.

Dr. J. P. Runyan, Pine Bluff, Ark., in his paper on this subject said that in all pelvic inflammatory troubles we should open the abdomen, and do the radical operation always. Do not go the blind way, but see what you are doing, as vaginal puncture is dangerous and unscientific.

TWO CASES REPORTED TO SHOW THE DELICACY OF CERTAIN ETHICAL RELATIONS.

Dr. J. W. Gilbert, Corinth, Miss., read this paper, which was a recital of two cases of professional misunderstanding, hardly of general interest.

A NEW AUTO-EXTENSION FENESTRUM SPLINT.

Dr. R. W. Barton, Marion, Ark., presented this splint, but the fact that he had secured letters of patent on the apparatus precluded a discussion of its virtues until a committee appointed to investigate the professional status in which the patentee would thus be placed could report at the next annual meeting of the Association.

WAS IT A NERVOUS REFLEX? REPORT OF A CASE.

Dr. A. L. Elcan, Memphis, Tenn., read his paper on this subject. He reported the case of a child who suffered with a cough without any assignable cause except an adherent prepuce. This cough disappeared on breaking up the adhesions.

REPORT OF SOME SURGICAL CASES.

Dr. A. B. Oliver, Memphis, Tenn., read this report, which consisted largely of a plea for the use of radical surgical procedures in the treatment of urethral strictures.

PUERPERAL ECLAMPSIA: REPORT OF TWO CASES.

Dr. J. P. Shearon, Corinth, Miss., read a paper reporting these cases. He uses the more common remedies, such as veratrum viride, digitalis, and Epsom salts, and also gives bromid of potash and quinin.

PLEURISY WITH EFFUSION.

Dr. Frank A. Jones, Memphis, Tenn., read a paper on this subject, objecting to indiscriminate resection of the rib in empyema. He does not irrigate the lung in every case. Counterirritation and salines are not indicated in pleurisy with effusion.

(To be Continued.)

N. Y. Academy of Medicine: Surgical Section.

Nov. 13, 1899.

PURULENT PERICARDITIS.

Dr. H. Lilienthal presented an exceedingly rare case, a boy on whom he had operated for this condition. On July 14 last a pericardial murmur was heard for the first time. This was just as he was recovering from an extensive lobar pneumonia. On August 3 streptococci and pneumococci were present in the sputum. On August 14 over eighteen ounces of pus were removed by aspiration, this containing numerous pneumococci. The boy had then come under Dr. Lilienthal's care, and as his condition was very bad, local eucain anesthesia was selected as safer than a general anesthetic. On incising the pericardium fully forty ounces of pus escaped. The boy left the hospital on September 27, and is now in excellent condition.

SURGERY OF GALL-STONES.

Dr. Maurice H. Richardson, Boston, presented a paper on this subject and said that, according to the records of the Massachusetts General Hospital, operations for gall-stones had been about as frequent as hysterectomies. The mortality was more dependent on the time of operating than on the operative intervention itself. Attention was called to the fact that the absence of facets does not exclude the presence of other gall-stones, and, in proof of this, mention was made of one of his patients in whom there had been ten gall-stones, all free from facets. A history of intermittent colic associated with jaundice almost certainly points to gall-stones, yet it should not be forgotten that it is possible for the pain to be strictly confined to the epigastrium and the fault still lie in the vermiform appendix. Dr. Richardson advises surgical intervention in all cases in which there is good reason to believe gall-stones are present, because the dangers from such a course are trifling and the the promise of recovery good, whereas on the side of delay there are many and grave uncertainties. Unless one is almost absolutely certain of malignant disease, an exploratory incision is perfectly justifiable, as an erroneous diagnosis is entirely possible even with the most experienced surgeons. Hemorrhage from the mucous membrane of the gall-bladder, at the time of operation, is prone to occur, and especially if the gall-bladder has been much distended. The prevailing opinion among the surgeons at the Massachusetts General Hospital, and one which he shares, is that the so-called ideal operation of immediate closure of the gall-bladder and of the abdominal wound is dangerous. He is disposed to consider it good surgery to remove the gall-bladder in all cases in which it becomes necessary to incise the duct. The greatest caution should be observed in all incisions made in proximity to the foramen of Winslow. For a number of years he operated so successfully in cases of jaundice that he was almost disposed to ridicule those who are so fearful of hemorrhage under such conditions, but he met with such a sad case of death from uncontrollable capillary hemorrhage that he now feels there is considerable truth and wisdom in the older teaching. At any rate, it is well to ligate all points showing a tendency to bleed, no matter how insignificant they may appear to be at the time.

Dr. Robert F. Weir expressed his preference for stitching the gall-bladder to the external wound and leaving it open after having removed the stones.

Dr. Charles McBurney spoke enthusiastically of a method of operating, devised by Dr. William Jones of Nebraska, by which biliary fistula can be avoided. The method consists in inverting the orifice made by the knife so that the peritoneal coats can be brought in contact. By this method the opening can be made to close within forty-eight hours after removing the drainage-tube.

Dr. B. Farquhar Curtis narrated a case, affording some foundation for his belief that it is quite possible that the hemorrhage observed in some cases is not really directly the result of the jaundice, but rather of an associated cirrhosis.

Dr. Robert Abbe remarked that in several instances he had left the wound in the duct open with no bad results.

Dr. J. B. Murphy, Chicago, said that his experience has furnished abundant proof of the danger of operating in the presence of jaundice. In some instances he has adopted the plan of doing a cholecystotomy first, and then, after curing the jaundice, operating for the removal of the stone.

N. Y. Academy of Medicine.

Anniversary Meeting, Nov. 16, 1899.

SURGERY OF THE KIDNEY.

Dr. Lewis S. Pilcher, in the anniversary discourse, took this for his subject. He gave a most interesting historic sketch of surgery as it existed twenty years ago, and of the rapid strides made in renal surgery since that time. He administered a scathing rebuke to the antivivisectionists, by pointing to the almost incalculable benefit that has resulted to the human race from the sacrifice of thirty dogs as a preliminary study to the first nephrectomy. Speaking of calculous kidney, he said that when suppuration has already supervened, a nephrotomy can only give temporary benefit. The diagnosis of tuberculosis of the kidney is difficult, but when a case presents polyuria, recurrent hematuria, frequent micturition and loin-ache, an exploratory incision is indicated, even in the absence of pus in the urine.

Cincinnati Academy of Medicine.

Nov. 13, 1899.

MULTIPLE FIBROID OF UTERUS.

Dr. Giles Mitchell presented a specimen of this condition from a patient who began to menstruate at the age of 13, in whom menstruation was always normal up to the time of operation. Six years ago she first noticed an abdominal enlargement, which gave her some annoyance on account of the size of the growth, but there was no pain. During the last year the tumor has grown very rapidly, interfering with locomotion and her occupation. It was more for the pressure symptoms and discomfort than for any other reason that she sought relief. Rather curiously she presented no vesical symptoms. She is 30 years of age and unmarried. The operation itself presented no particular difficulty. The tumor weighed fourteen pounds.

In reference to the patient from which he removed the fibroid reported November 6, where there were great omental and bladder adhesions (see Journal, November 25, p. 1361), her temperature and pulse are now about normal, she is able to take light nourishment and her bowels have moved freely.

LYMPHADENOMATOUS TUMOR OF UTERUS.

Dr. A. W. Johnstone presented what he regarded as a lymphadenomatous tumor of the uterus, and which projected into the cavity of the uterus very like a polyp. This tumor he thought differed from a fibroid in that it might develop quite late in life and had no tendency to remain latent or to undergo spontaneous cure.

RUPTURED INTESTINES.

Dr. Joseph Ransohoff presented this specimen from a man injured in attempting to stop a runaway team, during which he was dragged about two hundred feet. He was brought to the Cincinnati Hospital an hour or two afterward. He vomited once or twice, but his general condition was good, and there was no indication of any injury to the abdomen. Late that same afternoon he began to complain of some abdominal pain, and the interne thought he detected some rigidity of the abdominal wall. During the first twelve hours he had two spontaneous evacuations from the bowels, of importance in view of the later history. Dr. Ransohoff did not see the man until about twenty-four hours after his injury, and a most careful scrutiny failed to reveal the slightest indication of any injury having been done to the integument or to the abdominal wall. There was, however, tenderness and a rigidity such as he had rarely seen. There was no distension and the patient did not complain of pain. His pulse rate increased rapidly until at the time of the operation it was about 130. Laparotomy disclosed a most serious condition. *There was one complete transverse cut of the intestine, the severed ends being separated for from five to six inches, with a corresponding tear of about 2 1/2 inches in the mesentery. In addition he had a transverse cut of the intestine extending half-way across the gut.* The abdomen itself was quite well filled with fecal matter mixed with blood. The patient only survived the operation five or six hours, never completely regaining consciousness.

The dyamics of this condition Dr. Ransohoff said were wholly inexplicable to him. He could understand that a man without visible injury to the abdominal wall should have a rupture of the intestine, but why he should sustain such an injury as was first mentioned, and then two inches below this another transvere cut, he was unable to understand. (See "Multiple Ruptures of the Liver," Cincinnati Academy of Medicine reports, in previous issues of the Journal.) He said that so far as the clinical features of the case were concerned, it was greatly to be regretted they were not more pronounced. Until about twelve hours had elapsed from the time of injury, there was no evidence whatever that the abdominal viscera had been injured. The man had vomited, but that is no uncommon thing after any injury. The fact that he had two spontaneous movements of the bowels after such an injury is in contradiction to all that has apparently been established in regard to intestinal peristalsis. When the intestines are cut or rupture takes place, the peristaltic wave is quite thoroughly interrupted. It is also known that intestinal obstruction also puts a stop to peristalsis. Here, however, were tears of the intestine, one nearly through and the other entirely so and into the mesentery, and yet the man had two movements. The specimen, in addition showed inversion, as is so common in these cases.

THE TONSILLAR RING.

Dr. D. T. Vail presented the paper of the evening, on this subject. This collection of lymphoid tissue forms a ring in the throat. It consists of the ordinary facuial tonsils, the pharyngeal tonsil of adenoid vegetation, the tubal tonsils, and the tongue tonsils, seven in all. Any of these may grow to large size, causing very annoying symptoms. He put particular stress on the dangers of adenoid vegetations, which are not only prolific causes of deafness, but by their presence so lower physiologic resistance as to allow the more ready entrance of the germs of the infectious diseases. Not only this, but the latter diseases are more fatal when inflicting children with the pharyngeal growths. The object of the paper was especially to call attention to the fact that the essential structure of all these various tonsils is the same, though the surface may show some differences. Attention was called to the fact that the tongue tonsils are liable to prove troublesome after middle age, while the other adenoid growths of this ring flourish in early, and have a tendency to atrophic changes in young, adult life. The best treatment is complete and clean surgical removal.

Dr. Mark Brown presented microscopic slides illustrating the tissue of the various components of the tonsillar ring. The pharyngeal tonsil was shown to be covered by columnar ciliated epithelium, which is normally present at this point; while the faucial and tongue tonsils were covered with the squamous. Mucous glands could be demonstrated in all, though in small numbers, in the adenoids the lobulation giving the appearance of these glands, one specimen, removed from a patient well advanced in life, showing well-marked chronic interstitial changes in a lingual tonsil.

Omaha Medical Society.

SYMPOSIUM ON PNEUMONIA.

Dr. W. R. Lavender's paper was a thorough discussion of the pathology of pneumonia, the definition, description, characteristics, its occurrence secondary to other diseases, the bacteriology, the pathologic changes, the terminations, favorable and unfavorable, the post-mortem findings, macroscopic and microscopic, and the diagnostic aids found on the examination of the sputa, urine and blood. He laid especial stress on the fact that pneumonia causes a muscle-poison, affecting chiefly the heart, of vastly more importance than the mechanical effects due to the exudate.

Dr. W. L. Ross, in his paper, gave an up-to-date résumé of the treatment of the disease.

Dr. Eleanor S. Dailey's paper was a résumé of the treatment of pleurisy and pleuropneumonia. She laid stress on four cardinal points, the diet, bathing, prevention of delirium, and the utmost attention to the circulation. She advocated a bland, easily assimilable diet in moderate quantity, believing that we err too often in overfeeding; also the use of large doses of the bromids in threatened delirium, especially in alcoholics; she is a believer in the efficacy of cold baths, properly used, as they are of service both in reducing temperature and in giving tone to the nervous system. She paid great attention to the use of medicines directed to aid the heart, strychnia and alcohol.

Dr. Chas. Rosewater gave a synopsis of the characteristic differences between the pneumonia of children and adults and his idea of what differences there should be in their treatment.

Dr. H. M. McClanahan spoke of the absence of serous pleurisy in children under 3, and of the fact that empyema too often escapes the notice of the attending physician, creeping on undetected. He called attention to bronchopneumonia usually being a primary disease, not secondary, as is too often said. He regards high fever as a dangerous symptom, especially when delirium or tremor supervenes, and feels that they are best treated by hydrotherapy. He condemns poultices, regards hypostatic congestion as a dangerous condition, and uses supporting measures constantly, having much confidence in alcohol in either children or adults.

Dr. B. F. Crummer called attention to the astonishing rapidity of the exudation in many cases. He reviewed the article of Dr. Andrew Smith, in which the opinion is expressed that there is no infiltration in a lobular pneumonia; that the functional circulation of the lung is stopped; that the air-cells are only slightly damaged; that they act as culture-tubes and the pneumonia is a culture process; that the treatment is best when it renders the culture-medium less suitable for the process. Smith asserts that one attack renders the subject immune but for an indefinite, short period. Dr. Crummer advised against the use of heat, preferring cold packs for their effect on the nervous system.

Dr. W. F. Milroy called especial attention to the pneumonias of the aged and the fact that they escape observation very much too often. He thinks a very large percentage of deaths among the aged is due to an unrecognized pneumonia. A systematic examination of our cases is the only safeguard. Since we can not modify an existing pneumonia, we should pay most careful attention to the well lung and the circulation, not for a moment overlooking support.

Dr. R. C. Moore called attention to the serious condition which supervenes so quickly in many cases. He still believes in bleeding in some of the sthenic cases, and also uses the veratrum viride, but never in the aged. He approves of a stimulating treatment from the start; cool, not cold packs, and the oiled-silk jacket. He thinks that the use of the old-fashioned onion poultice is of value only to the attendants.

Dr. V. L. Treynor, Council Bluffs, is a firm believer in cold and ice packs and insists on the necessity of an abundance of fresh air.

Dr. John MacRae, Jr., Council Bluffs, said that he had seen very little pneumonia in the Philippines, whence he has just returned. His experience there made him place less dependence on drugs and more on cold and alcohol. In the heat there he knew of nothing he missed so much as ice in these cases.

Dr. Mason called attention to a neglected remedy—tartar emetic. He is fond of it in sthenic cases. It softens the skin, opens the pores, induces free perspiration and promotes expectoration. He deprecates the use of opium, as it always does harm; locks up all secretions and checks expectoration. He bleeds in sthenic cases and advocates the use of cold.

Dr. Mary Strong called brief attention to the disastrous use of turpentin in pneumonia, as it causes serious urinary troubles.

Dr. J. E. Clausen related two cases of ambulant pneumonias which did not come under observation for many days after the onset. One was found dead on the first visit, and yet had been about up to about the time of death. The other was about for two weeks, without temperature, pain or quick pulse; he died from the exhaustion.

Dr. H. P. Hamilton expressed much interest in the views of Andrew Smith, as brought out by Dr. Crummer. He disapproves of antipyretic remedies, but approves of the use of cold, and thinks pleurisy is much too often unrecognized. It is often due to cold and not of necessity to a pneumonia or a tubercular process, as held by most observers.

Dr. C. F. Clark expressed the opinion that the liq. ammon. acet. is of greater value than either whisky or brandy. He uses the oiled-silk with cotton under it; also antipyretics, with quinin and stimulants.

Dr. A. B. Somers is in the habit of using strychnia freely also alcohol, but pure, not in the form of whisky or brandy; he dilutes it and uses it in emergencies, for short periods. He believes in the use of oxygen, but in the form of an abundance of pure air. In sthenic cases, with hot, dry skin, bounding pulse, he uses spiritus ether nit. and spiritus mindererus, old-fashioned remedies, but very useful in elimination. We do not pay sufficient attention to the elimination by means of the skin and kidneys.

Dr. W. H. Hobbs expressed the opinion that cold is not useful. He prefers antipyretics; also mustard poultices and the oiled-silk jacket. He makes much use of strychnia, digitalis and nitroglycerin, also alcohol, both in adults and children.

St. Louis Medical Society.

Nov. 18, 1899.

CHRISTIAN SCIENCE, CHRISTOPATHY, ETC.

Dr. Chas. H. Hughes discussed this question from a neurologic standpoint, presenting the thought that these people, many of them, become imbued with a religious mania which attracts followers by its seeming spirit of self-abnegation, but that the majority soon become commercialized. As illustrating the proneness of the easily impressed populace along these lines, he says:

"Illusion, hallucination and delusion, rationally or irrationally founded, have moved the moral world almost as much as Truth, and at times in history, scintillations of truth have flashed upon minds diseased. Disease of the nervous system involving the brain and mind in delusional disorder has destroyed and restored dynasties, founded and remodeled religions, lifted up or cast down peoples, helped or harmed, brightened, darkened or destroyed human life or welfare. By these states of brain and mind the happiness of individuals has, in these and many other ways, been made or marred for life.

"A young, unlettered, demoniac, paranoiac peasant girl of France, obeying the imaginary voices of heavenly command and under dominion of visual, olfactory and auditory hallucinations, questioning them until her mind passes into delusion, leaves her humble home to reinspire a dismayed, dispirited and almost defeated army with her Heaven-born mission and lead it to victory. Under its delusive and potent sway, a monarch is restored to his throne and she herself is finally brought to the stake.

"To Mohammed's hallucinations of hearing and sight as well as to the epilepsy, are due the revelations of the 'Koran.' He is said to have heard the stones and trees about Mecca greet him as the 'Messenger of God.' Swedenborg, who claims to have been in constant communication with the denizens of Heaven, felt his hand clasped and squeezed by an invisible person after an appeal and prayer to the omnipotent Christ. He had visual as well as auditory hallucinations and hallucinations of other senses. The delusions of the critical Luther, who attributed his neurotic condition to diabolic influences, are too well known to be recounted. The ink-stand incident is but one of many in the career of this over-wrought theologian whose hyperesthesias, cerebral vertigo, instability and hallucinations, have so often been discussed by writers of psychiatry. The cure of Melancthon's malady by Dr. Martin Luther was a faith cure, though not one of 'Christian Science,' like the beneficial effects of Paul's prescription for Timothy. We have also the visual hallucination of the cross in the sky and the historic motto which inspired Constantine and the crusaders.

"Mohammedism, founded in the psychic trance and alternative automatism of an epileptic, is said to be the only one of the world's great religions which has made inroads on and resisted Christianity. But the delusion-founded faith of Mormonism has done, and is doing, likewise, though cerebral disease has not been so clearly traced to the founder of the latter."

Dr. Hughes laid stress on the fact that the alleged founder of 'Christian Science,' Mary G. Baker Eddy, manifested some of the fanaticism of religiomania, and yet her very evident love of money showed that there was too much method in her madness. He felt that it was well for physicians to inform themselves fully regarding these people so as to give proper intelligent information to the laity, but we should have a care lest we dignify them by too much attention. After all, the essence of all these fads and fancies is "Suggestion."

Chicago Medical Society.

Nov. 8, 1899.

MODERN TREATMENT OF FACE PRESENTATIONS.

Dr. Gustav Kolischer, in a paper on this subject, dwelt on the diagnosis and prognosis, and then took up the indications for interference, the preparatory measures, and lastly spoke at length as to operative delivery.

Dr. Frank B. Earle indorsed the methods advocated by the essayist. When the chin is anterior, the patient better be be left alone; but when it comes down under the symphysis pubis, Nature will terminate the labor ordinarily, or it can be terminated with forceps. When the chin comes down posteriorly, then the obstetrician has a position from which it is impossible for the child to be born, and correction is needed. One of three or four things must be done: The head must either be flexed or rotated anteriorly, or podalic version must be resorted to, provided the child is living. If the child is dead, embryotomy or delivery by forceps, bringing the child through without change of position, should be considered. He considers the mortality of face presentations, as given in textbooks, too high.

Dr. Joseph B. de Lee directed attention, in applying the forceps in a face presentation, to a little maneuver recommended by Schauta, which he has found of signal service. The rule in applying forceps is to apply the left blade first, but in face presentation, especially if the chin is in the transverse diameter, the right blade should be applied first, then the left, and the blades gently crossed after having applied them in order to lock. As to the mortality of face presentations, in his own cases 25 per cent. of the children were lost; six cases required operative interference; only two of the children were delivered alive. One died shortly after birth.

Dr. Charles S. Bacon favored the adoption of combined manipulation in all cases of presentation unless the face is too much engaged, or unless there be too great contraction of the pelvis to make a presentation. The patient should be put under an anesthetic during all of these manipulations. In addition, he sees no objection to pressing the head into the pelvis after completing the change in position.

Dr. Rudolph W. Holmes referred to the use of forceps. He believes a mistake is made in employing them too early. The face may be on the perineum before the occiput has pased the promontory, and it is only then that rotation is possible. If the obstetrician would wait until then, rotation would occur spontaneously, and the operation would be simple. In regard to the use of forceps when the chin is posterior, he thinks Barnes and Meigs have both delivered children by persistent efforts in that way.

Dr. J. C. Webster agreed with Dr. De Lee. He mentioned one condition in which he thinks the physician is justified in using forceps early, namely, in a case in which efforts at alteration of the presentation have been made and are not successful. In some cases, by combined external and internal manipulation, the physician may change the face to a vertex presentation, and by continually watching, delivery will take place. In using forceps when the head is down, he recommends the axis-traction forceps rather than the ordinary long forceps. He thought sufficient emphasis had not been laid on symphysiotomy, especially with reference to cases in which the chin is rotated into the hollow of the sacrum. The mortality is enormous in most cases, but he believes that symphysiotomy, carefully conducted, is attended by a low mortality. He has seen two cases delivered safely in that way, both child and mother recovering perfectly.

Dr. Junius C. Hoag said a certain number of cases of face presentations could be converted into vertex presentations, but this was not an advisable thing to do in many cases, and cited at length a case in point.

Dr. Kolischer, in closing, replied to all of the points on which there was any disagreement.

OVARIAN CYST COMPLICATING LABOR.

Dr. H. D. Peterson read a paper on this subject, and reported the following case:

Mrs. E. M., aged 30, primipara, previous history good, never before had any symptoms of the present trouble. She came under his observation Aug. 31, 1899, soon after labor had commenced. Vaginal examination showed a large mass in Douglas' cul-de-sac, resembling a fetal head in size, shape and contour. The cervix was pushed forward and upward above the pubes, the os was dilated, and about one-half inch in diameter. The child's head could be easily felt through the abdominal walls above the pubes. Fetal heart tones could not be heard. The patient thought she could feel fetal movements up to two weeks before labor. He was uncertain as to the exact nature of the tumor. He had the patient removed to St. Luke's Hospital, where she was seen by Drs. Hoag, Cary and Watkins in consultation, and a second examination was made under anesthesia. A diagnosis of ovarian cyst was made and vaginal section decided on. A transverse incision was made in the perineum at the mucocutaneous border. Using the fingers as a dissector, a canal was now made under the posterior vaginal wall up to and into the peritoneal cavity. The cyst was punctured and about one quart of thin, serous fluid evacuated. The prolapsed ovary could now be felt. The wound was now closed with silkworm gut sutures and the patient put to bed in good condition. The cervix had now resumed its normal location. Pains began about two hours after operation, and seven hours later she was delivered of a still-born macerated fetus. He could find no cause for the death of the child. She made an uneventful recovery, and left the hospital at the end of two weeks.

Dr. Henry F. Lewis, in the discussion, reported an interesting case of dermoid cyst of the ovary complicating labor.

Dr. Carl Wagner narrated two cases of tumors complicating pregnancy which had come under his observation in one year. One was a sarcoma of the ovary; the other a cyst. In the second case the child was delivered alive, but died on the third day from bronchitis.

Dr. Denslow Lewis said that if pregnant women were examined a number of times during pregnancy, in many these cysts would be discovered, and then should be immediately removed. His experience comprises six cases, occurring early in pregnancy, and in every instance the woman recovered and pregnancy progressed without interruption.

Dr. Junius C. Hoag coincided with Dr. Lewis that tumors complicating pregnancy should be removed as soon as discovered. Unfortunately, in many cases they are not discovered until the woman is at the end of the period of gestation. He has had experience in two such cases, and believes the best treatment is to perform Cesarean section, removing the child and tumor at the same time.

Detroit Medical and Library Association.

Nov, 13, 1899.

RELATION OF INSANITY TO PELVIC AND OTHER LESIONS.

Dr. A. T. Hobbs, of the London (Ont.) Asylum for the Insane, read a paper on this subject. He said that it is universally conceded that immense benefit can be conferred by operative treatment on women who suffer from the lesions entailed by the accidents of maternity; that this phase of treatment has been neglected by asylum authorities having in their care large numbers of female lunatics and has called forth strong protests from men eminent in medicine in the old world and new. In the beginning of 1895, he said, Dr. Bucke of the Asylum laid plans for systematic investigation and the prosecution of gynecologic work in the institution. The author, together with Dr. Meek, selected from among the female inmates some of the young and middle aged who had married and borne children, and proceeded, with the aid of general anesthesia, to make systematic examinations. The result was that they concluded that gynecic disease is the rule and not the exception in these cases. We have had, he said, during the past five years, over 800 women under observation and have actually examined 220. Of these we found distinct lesions of the pelvic organs in 188, or 85 per cent. of those examined. This would represent that over 23 per cent. of our insane female population had some complicating lesion of the reproductive system. Glancing at the pathologic lesions diagnosed in 188 women, there were found subinvoluted uteri or endometritis or both in 132 cases; some 18 women gave evidence of dysmenorrhea or menorrhagia; 62 had diseased or lacerated cervices and 5 had cervical polypi; retroverted or prolapsed uteri were present in 66 patients and 18 had new growths—16 being myomatous and 2 malignant; 33 had marked disease of the ovaries and tubes and 37 had lesions of the vagina ranging from fistula to complete tears of the perineum. In all there were diagnosed 371 lesions in the 188 patients. The surgical measures carried out consisted of curettage 131 times; trachelorraphy or amputation of the cervix, 53; Alexander operations, 37; ventrosuspension of the uterus, 13; perineorraphies, 27; ovariotomies, 22; hysterectomies, abdominal, 14; 9 vaginal; myomectomies, 3; celiotomy for tubercular peritonitis, 2 times. Summing up the total results of the cases we found that subsequent to operation, 73, or 42 per cent., recovered mentally, 41, or 24 per cent., improved mentally, in 55, or 32 per cent., the mental condition remained stationary, and 4, or 2 per cent., died. From this it is evident that 114, or two-thirds of the whole number, were benefited directly or indirectly, both physically and mentally, by the surgical treatment carried out. The Doctor further said that it is not claimed that the removal of pelvic lesions is a panacea for all mental derangements in women, but the fact that 52 of the 114 patients, who either recovered or improved mentally, had been insane two years or more prior to the removal of the complicating genital lesion, is in itself presumptive evidence as to the relation of physical cause to mental effect. He concluded by stating that their investigations led them to deduce the facts that organic lesions of the inflammatory type are the most prominent factors among pelvic diseases in exciting mental derangement, and that displaced organs rank next in importance and tumors last in the order of causation.

California Academy of Medicine.

San Francisco, October Meeting.

SYPHILITIC EPIDIDYMITIS.

Dr. Dudley Tait presented a patient with syphilitic epididymitis on the left side. The history was clear, and the diagnosis undoubted. He called attention to the fact that syphilitic disease, in the secondary stage, gives rise to these affections, whereas in the tertiary stage the testicle is involved. The patient had not been under treatment for six months prior to the time of consulting Dr. Tait, which was about two weeks before the above meeting. Since then he has been receiving potassium iodid and has materially improved.

TYPHOMALARIA.

Dr. Wm. Watt Kerr presented a paper on this subject. He said that the abolition of the term "typhomalarial fever" had been strongly advised by many writers, owing to its use as applied indiscriminately to many conditions of continued fever. While many of these cases are but forms of atypical enteric or estivo-autumnal fever, we must acknowledge that double infection by the malarial and the typhoid germs occurs. Only within the last few years have we been able to demonstrate the malarial plasmodium, and the typhoid condition through the Widal; hence it is only within the last few years that we have been able to demonstrate the presence of this double infection. Thus far nearly 50 cases have been reported; the present paper adds 5 to the list. Twelve cases of typhoid were seen in Dr. Kerr's wards of the City and County Hospital, between June 24 and August 30 of the present year. In the blood of 4 of these the plasmodia were discovered. In all 4 the plasmodia were intercellular, 2 being of the hyaline and 2 of the pigmented variety. He reported the cases in detail. They are of interest, for they show that malarial attacks are not always a fresh outbreak of an old infection, during typhoid convalescence. The two diseases may appear simultaneously and coexist actively. The temperature in all of these cases ran an irregular course. In the last there was no fever for three days, then sudden rise and fall, malarial in nature. Most cases of typhoid in California show irregular temperature-charts. Very seldom does a temperature-chart at all resemble those seen in European cities. Careful examination of the blood will show a fairly common condition of double infection, which may be called "typhomalarial fever."

PURPURA HEMORRHAGICA.

Dr. Kerr reported a case of this condition. The man, aged 55, with unusual blood-changes, had no family history of hemophilia. He had a soft chancre 25 years ago, for which he was treated. He bleeds freely when cut, as he has noticed several times. He has not been out of San Francisco for five years. He had acute articular rheumatism twelve years ago. October 4 he had fever followed by a chill, and recurrence for several days. He then got better but profuse sweating remained. With the advent of fever his feet and legs became edematous, his urine irritating and high colored, and he had pain in the back, ankles, knees and elbows, which were also swollen. The third day of the fever his legs began to itch, and red blotches appeared, which later turned black. The itching was considerable. There was no elevation above the skin. Large patches ruptured and bled. On the third day of the eruption, while walking, he was struck by a bicycle, and contusion in the right infraorbital region resulted. Two days later nose bleed began, little at first, later marked. He had been constipated up to this time, but his bowels now became very lax and the stools dark in color. Fourteen days from the beginning of the fever, ten from the initial eruption and four from the initial hemorrhage, he entered the City and County Hospital. There was persistent hemorrhage from the right nasal cavity, lips, a spot on the soft palate, another in the pharynx and a little oozing from the conjunctivæ. He has had cramps in the hands, arms, legs, etc., shooting pains in the legs at night, but no girdle sensation; profuse hemorrhage from "blood counter's stab." Urine: sp. gr., 1012; albumin, 1/30 per cent.; no glucose; no diazo; no indican; blood cells plentiful; blood casts; granular and epithelial casts. Blood: hemoglobin, 35 per cent.; erythrocytes, 1,600,000; leucocytes, 15,400. Eyes: slightly myotic; react to light and accommodation; fields normal; right eye shows large retinal hemorrhage; left eye, two smaller hemorrhages. October 20, the blood shows: hemoglobin, 32 per cent.; erythrocytes, 960,000; leucocytes, 30,000. Differential count: polymorphoneuclear leucocytes, 277—86 per cent.; small lymphocytes, 34—10 per cent.; large lymphocytes, 16—4 per cent. October 23, three minutes after death, the blood showed: hemoglobin, 20 per cent.; erythrocytes, 920,000; leucocytes, 46,400.

Dr. Philip King Brown thought too much credit could not be given for such investigations. We are led to believe that such double infections as those reported by Dr. Kerr are rare, and judging from his—Kerr's—reported experience this is a common condition on this coast. We find malarias not very common, here, and the typhoid cases are frequently atypical. He formerly thought the estivo-autumnal fever was uncommon but has come to the conclusion that it is the most common of the malarial infections. He recently found the plasmodium in the blood of a man who had not been out of the city for five years, so that it is not confined entirely to the country. This patient had been treated for three weeks as a typhoid. It was a pure estivo-autumnal malaria. The matter is exceedingly interesting, especially if it proves on subsequent investigation to be as common an occurrence as we are led to believe from the number of cases reported by Dr. Kerr.

Dr. A. Liliencranz was pleased to hear Dr. Kerr say that he so seldom sees a case of typical typhoid, for that has been his experience for a number of years. The fever is generally a very light infection and with but moderate symptoms. So much is this the case, that in many typhoids he is not sure of the diagnosis until late in the course of the disease, and when the patient is convalescent. He asked how much reliance we are to place on the bacteriologist? A short time ago he sent some blood from a suspected patient to a bacteriologist of note, whom he believed to be in every way competent and qualified. The blood was drawn under aseptic conditions. He answered that it was undoubtedly a case of typhoid fever. The man has been perfectly well for three weeks since then, and is about, tending to his ordinary business affairs. He asked whether the Widal reaction is absolutely to be relied upon.

Dr. C. C. Crowley thought it possible that the patient mentioned by Dr. Liliencranz may have had typhoid fever some years ago, and the Widal reaction still persists.

Dr. Herbert C. Moffitt had seen the patients reported by Dr. Kerr, in the hospital, and said that the double infection could not be doubted. In all four cases in which the double infection occurred, the malarial parasite was the estivo-autumnal variety. Three of these men had recently been out of the state. As to the value of the Widal reaction, he considers it absolutely reliable, clinically. When it is present it is unequivocal. In about 2 per cent of the cases of typhoid we fail to get the reaction. But failure to get it does not exclude typhoid. Presence of the clumping, however, absolutely indicates a present or a past typhoid. The Widal reaction may persist for twenty years.

Dr. Kerr said, in closing, that these cases cover all the typhoids seen between June 24 and August 30. The Widal reaction, when obtained, is sure evidence that there is or has been a typhoid fever. If absent, it does not prove anything, for it may have been present and gone, or the case may be one of those rare ones in which it does not seem to occur at any time.

Dr. Philip King Brown, in discussing the second paper of Dr. Kerr said he had seen a case of purpura hemorrhagica some little time ago, interesting as presenting a contrary blood condition to that in the case just reported. The patient, two weeks before death, showed a hemoglobin percentage of 105.

Dr. Harold Brunn asked if the matter of infectious origin had been considered.

Dr. Kerr said he deeply regretted that no investigations had been made, through some difficulty with the laboratory, to ascertain the possible infections.

Dr. Douglass W. Montgomery said that purpura is but a symptom of a number of conditions, not a disease in itself, and may follow or accompany a number of infections.

EXTRAUTERINE PREGNANCY

Dr. Henry Kreutzmann brought up the question of ectopic pregnancy and presented three specimens. The women were all young married women, two had had children; one had never before been pregnant. Two had some pelvic trouble of no importance, the other had had no trouble of the sort. All were unaware that they were pregnant. There had been no symptoms or sign of pregnancy in any one of the three cases. The first seizures of pain came on very suddenly in all; in one case the woman was sitting in the theater at the time. Excruciating pain in the abdomen, not localized by the patient, was common to all. No diagnosis was made at the time in any. In one, "neuralgia of the bowels" was thought to be a good diagnosis; rest and simple treatment were prescribed and the pain subsided. In all three the pain would disappear, only to return again at intervals, thus wrecking the health. One patient flowed a few days after the primary attack. The other two had more or less bloody discharge all the time after the initial pain. In one case blood clots, which the patient thought to be a miscarriage, were expelled. At the end of four weeks the patients entered the German Hospital, under his charge, and when first seen all had temperature which rose as high as 103 F., in one instance. This subsided with rest. The pulse ran high, and was no time below 100. In one case the diagnosis was made with certainty from the history and status; in the others the diagnosis of ovarian tumor had been more favorably regarded, though extrauterine pregnancy was looked on as a possibility. In all three, ectopic gestation was found to have occurred on the right side. Operation decided on in all three.

In the one in which the diagnosis had been made, the attempt was made to enter the pelvis through the vagina, but this had to be abandoned and the abdomen was opened and the operation completed. In all three, after opening the abdomen a bluish tumor presented itself, emanating from the right side of the uterus and extending upward and over to the left side, the upper portion being entirely free, but the lower part firmly adherent. In one case neither uterus nor tube could at first be seen. This, from the nature of the mass, was thought to be an ovarian tumor, but when it was peeled off the uterus, tube and ovary became visible. The most remarkable feature of this case was the friability of the tissue involved. All the tissue, tumor, tube and ovary, gave way under the enucleating finger. There were some adhesions of the omentum and tense adhesions with the cecum; the appendix was also involved. The mass was extirpated, and the removal of these adhesions necessitated the application of a few stitches over the gut, in order to cover the tear of the serosa of the cecum.

Inspection of what had been removed showed tubal pregnancy n the right ampulla of the tube, which had terminated in abortion. There was a large ovarian tumor present, filled with coagulated and liquid blood. The appendix was inflamed; the eft side showed adhesions between the ovary and tube: there was a fresh corpus luteum and a few small cysts. These latter were dissected out and the adhesions freed. In the other instances, after opening the abdomen the uterus was seen to be pushed toward the symphysis, while the tube could be plainly seen on top of the tumor. In both the remaining cases the tumors were rather indistinct as to their nature, and they were removed *in toto*. Inspection showed, in one case, a blood clot n the extremity of a distended tube, the ovary being normal. Microscopic examination showed this to be a tubal pregnancy, terminating in abortion and mole. In the other case the tube could be traced from the uterus into a large mass; this proved o be an ovarian cyst, within which, and some distance from he end of the tube, was a firm blood clot. Chorion villi were found in this mass. This was thought to be a case of pregnancy in a tubo-ovarian tumor; no other evidence of ovary was o be found. Communication between the tube and the cavity of the ovarian tumor had existed; the ovum had developed inside the tumor. All three patients made excellent recoveries.

Dr. L. Nelson, who had prepared the specimens and microscopic sections of these tumors, said that the specimens show horionic tissue in all three cases. The diagnosis can not be doubted, yet the appearance of the different masses is most peculiar and interesting.

Dr. J. Henry Barbat thought the appearance of the mass very like that of an organized blood clot. In his experience, a long-retained blood clot in the abdomen softens the tissues in he vicinity very much. This would account for the friable condition of the masses. In extrauterine pregnancy the diagnosis s generally clear, and can usually be made from the subjective ymptoms and history alone. The picture is as a rule clear, and he diagnosis should be made, and then there is but one thing o do, operate, and that as scon as possible. The operation hould be through the abdomen, as the vagina is not adapted or this.

Dr. Jas. F. McCone questioned the remarks of Dr. Barbat as o the ease with which these cases may be diagnosed. He nstanced the three cases reported, as there was in no case a history of pregnancy, and aside from the sudden onset of pain, no symptom of the actual condition. In the last year he had een six cases of extrauterine pregnancy, and in no one of them were the history and subjective symptoms sufficient for a diagnosis. A valuable point in connection with the cases just reported is the presence of temperature, but we often read that emperature is not a symptom in this condition. We should be xceedingly cautious, for a rupture may be the first sign, and death may follow the initial seizure.

Dr. F. Benny Carpenter said he has had no experience with he vaginal operation. Whatever the route, operation is at once ndicated, immediately the diagnosis has been made. As to the emperature, as a rule there is an elevation which remains airly constant, after rupture has occurred.

Dr. Kreutzmann, in closing, said he had always found the diagnosis rather more hard to make than Dr. Barbat would lead us to believe is the case. The question of the cause of the pain s a very interesting one. It is hard to explain when not due to a rupture of the tube, as in the first case reported. In the other cases there was abortion, but no rupture of the tube. Then what is the cause of the pain? It may be due to the great tension produced by the hemorrhage of a large amount of blood into a confined cavity, thus producing a considerable tension on the tube and tumor. As the blood clots are partly absorbed, and the stretched tissues become accustomed to the strain, the pain subsides; when another hemorrhage occurs, as s invariably the case, the pain recurs. The fever in these patients was rather unusual. After extensive hemorrhage and aparotomy, we do see an elevation of the temperature, but here the fever was constant for some time before the operation. There was in no case any sign of infection and the return to health was uninterrupted.

CASE OF LEPROSY.

Dr. Herbert C. Moffitt exhibited a patient 55 years old, with no family history, and himself a physician. He used alcoholics freely until nine years ago, none since. He contracted syphilis thirty-five years ago, was subjected to vigorous treatment and no secondaries appeared. He had yellow fever twenty-five years ago. After graduating from Guy's Hospital he served twelve years in the British army, as surgeon, in India and Egypt. In Jamaica he contracted yellow fever, since which time he has devoted much study to the subject. Seven years ago he was in Alaska among the Aleutian Indians, many of whom had leprosy. Also in his work in India he came in contact with many lepers. In 1896 he went to Cuba to study yellow fever. While there he was set upon by marauding insurgents, his companion cut to pieces and he was severely beaten about the head and body. He was confined in an old monk's cell, the floor of which was deep mud. After eighty hours he was released by an old negro woman, who cared for him until he could escape to England. There, two years later, he was told he had leprosy. The mud on the floor of the cell to which he had been confined produced a severe dermatitis, which was very slow to subside. The legs, up to the knees, were erythematous and edematous; later the edema became less and the reddened skin scaled off. Since that time he has been told by prominent physicians of Chicago, Philadelphia, etc., whom he named, that he has leprosy. May 19, 1899, he entered the City and County Hospital suffering from diarrhea, pain in the back and vertigo, when he rises suddenly. The duration of this attack has been one year.

Examination findings were detailed, but the nerve symptoms found do not correspond with the statements of the patient. They are vague and indefinite. The picture is rather one of syphilis than of anything else. "It certainly is not leprosy."

Dr. Douglass W. Montgomery called the patches on the legs psoriasis. Leucoderma very often follows a subsiding psoriasis. He considered the tongue gummatous, and the analgesias purely superficial, probably due to the thickened skin which prevents sensations from being transmitted.

Dr. F. B. Carpenter said, in answer to a request for his opinion: "I should say without hesitancy that it is not, and could not be from the history, a case of leprosy. I have had considerable experience with leprosy, in the Hawaiian Islands, yet I have never seen, nor has any one else, so far as I am aware, a case of leprosy develop and pass to the stage in which this man is, within the period of two years. Two years ago this man was comparatively a well man. While the period of incubation is a long one in leprosy, and in spite of the fact that this patient has been exposed in the vicinity of leprosy, I do not think it could possibly develop in the short time mentioned.

Dr. D. W. Montgomery saw no ground on which to base a diagnosis of leprosy.

IMPROVED SWITCH-BOARD.

Dr. J. Henry Barbat demonstrated an improved switchboard by means of which the 110-volt incandescent lighting circuit is adapted to meet all the requirements of the physician or surgeon. The principle of the whole apparatus is that of the shunt circuit. For the ordinary constant direct and induced currents, the so-called "galvanic" and "faradic" currents, the 110-volt current is passed through a resistance of about 60 ohms and the shunts are connected so that voltages of five, ten, fifteen, etc., up to 80 volts may be employed. All danger is entirely obviated. With this same resistance it is also possible to light any small lamps that may be needed. A second resistance of about nine ohms is used to heat cautery knives. This is done by cutting out a part of the resistance after the knife has been connected. It is connected to a fixed shunt of about ten volts; the current strength to the knife is then increased by cutting out the resistance in the main circuit. With this device it is possible to heat the heaviest of knives perfectly satisfactorily.

He also exhibited and demonstrated some improved rectoscopes, etc., and several pieces of electrical apparatus of his own devising or improvement.

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SATURDAY, DECEMBER 2, 1899.

PATHOGENIC BLASTOMYCETES AND THE ETIOLOGY OF CANCER.

The report by Hektoen, in this issue of the Journal of another instance of so-called blastomycetic dermatitis brings up the question in regard to the cause of the malignant tumors—a problem which is pressing hard for some kind of solution. In the first place it is proper to ask: What evidence have we that the form of dermatitis described is in reality a blastomycetic process? The answer is that in a considerable number of cases—in all there are now at least six instances described in American medical journals—of proliferative and granulomatous processes in the skin, characteristic, double-contoured vacuolated and budding organisms have been found in the lesions. In three of these cases yeast-like organisms have been found, isolated in pure culture, and subjected to careful study, including experimental inoculations into various animals in many of which more or less extensive and fatal lesions were produced. But in no case does it appear that a localized lesion in the skin, resembling human cutaneous blastomycosis, has as yet been produced experimentally. There is lacking, therefore, an important part of the evidence generally considered to be essential before the etiologic rôle of a living agent in a morbid process is regarded as fully established, and the presence of these peculiar and unmistakable organisms in the heart of the lesions, together with other facts, leaves but scant room for doubt. In these cases we are not dealing with homogeneous and globular bodies which it is difficult to differentiate from the products of hyaline changes on the part of the cells or tissues, but with double-contoured, vacuolated and budding organisms concerning whose parasitic nature there can be no question. In some of the cases, but not all, the presence of tubercle bacilli has been excluded by animal inoculations and by the study of properly stained preparations. It may therefore be considered as settled that organisms, resembling blastomycetes, may cause lesions in the skin which in a measure reproduce the microscopic picture of flat-celled carcinoma on the one hand and certain forms of tuberculosis on the other. Previously such cases were undoubtedly regarded either as instances of carcinoma or tuberculosis. We may therefore say that the territory occupied by carcinoma has been encroached on, and that perhaps a small part of it has been placed under the truly infectious processes. It may be that in the future further encroachment will continue.

The number of cases of blastomycetic dermatitis appears to be multiplying rapidly; there is no absolute reason apparent why it may not be expected that processes of this nature will be found to involve mucous membranes as well as the skin. It is well to remember, however, that in no case of blastomycetic dermatitis have the glandular and other secondary involvements of carcinoma been observed, and that we probably are dealing with processes which greatly resemble carcinoma in some things, but which after all are entirely distinct so that the clearing up of their nature throws but little, or no, sidelight on the cause of cancer; it may be that among the cancers there have been hidden true infectious diseases of blastomycetic and other nature which recent studies have simply uncovered, while the etiologic mystery of cancer remains as great as ever. It is very important to note in connection with this that the isolation of similar organisms from growths in various parts of the body, and called carcinoma and sarcoma, is being reported in current literature. Our readers are more or less familiar with the work of the Italian investigators, Sanfelice, Roncali and others, on the blastomycetic theory of cancer. In England, Plimmer has isolated a yeast-like organism from a rapidly growing carcinoma of the breast; this organism is said to produce endothelial tumors when injected into animals. Plimmer claims that many of the intracellular bodies in carcinoma are in reality organisms; Russel, who first interpreted the fuchsin bodies as blastomycetes, now regards the evidence in favor of his original claim as fully completed. Critical study shows, however, that the most which can be said is that in occasional instances of tumors organisms have been isolated which produce granulomatous processes in animals; the claim that all of the puzzling hyaline spheres are organisms can not be allowed because similar formations occur in practically all pathologic tissues. The question whether the tumors in which such organisms are found are genuine carcinomas with typical epithelial metastases, or are lesions of a peculiar kind, like blastomycetic dermatitis, seems to have been much neglected by the investigators, who have often hastened to make broad generalizations from observations of decidedly limited scope. It is not at all unlikely that under the terms carcinoma and sarcoma are included distinctly infectious processes which close study may separate into clinical and etiologic groups in the same manner as is being done in the case of blastomycetic dermatitis. It is, therefore, highly desirable that all growths which appear to be due to blastomycetes and other organisms belonging to fungi, are studied with greater minuteness from all points of view, clinical, histologic and etiologic. As remarked in a previous editorial, more real progress is to be expected from the minute study of smaller or less distinct groups of processes, now included under the malignant tumors, than from the efforts aimed at refuting or establishing this or that broad or general theory of the etiology of cancer. There are already facts at hand which indicate that certain melanotic sarcomas are infectious in their nature. Jürgens has found certain things in such tumors, which he regards as pigment-producing organisms of probable protozoan character, and the animal inoculations with fragments of melanosarcomas have in some cases resulted in an evident increase of pigment in the tissues of the inoculated animals if not in the production of actual tumors. One of the chief reasons why it has been and is held that sarcoma and carcinoma are not of infectious origin, is the nature of the metastases which reproduce the structure of the mother tumors and are therefore due to the transport of tumor cells and not of parasitic organisms. There is, however, no greater difficulty in interpreting the remarkable change in the biologic characteristics of the cells in cancers as due to the chemical and other actions of parasites than as due to the various purely hypothetic conditions hitherto urged with more or less plausibility. We are beginning to learn something of the remarkable influences which the chemical composition of the pericellular medium may exercise on the proliferative and other cellular processes. It is to be remembered, however, that the crucial test of this theory must be the animal experiment; it must be shown that an organism, or organisms, suspected to cause carcinoma or sarcoma in man are capable of producing similar tumors, with genuine tumor metastasis in animals before their etiologic rôle can be regarded as fully established. So far this has not been done.

TUBERCULOSIS AND LIFE INSURANCE.

At the present time it is generally admitted that tuberculosis is a transmittable disease. There remains, however, still some difference of opinion as to the virulence of its contagion or infection and the actual part it takes in the propagation and perpetuation of the disease. Heredity of tuberculosis, as now understood, except in the rare instances of fetal infection, is simply the inheritance of a predisposition which may be a special one to this particular disorder or a general constitutional weakness, rendering the subject less resistant to the contagion of this or other disorders. That this last may be the case few deny, but there are some who object to admitting a special weakness toward the contagion of tuberculosis. At the present time, in fact, the tendency seems to be to make the most of the contagious factor and to minify that of heredity. At the late International Congress of Medical Officers of Life Insurance Companies, at Brussels, a paper on this subject was read by Dr. Jules Meyer of Strasburg, in which he reviews published opinions on this point and gives his own that heredity is not fatal or even very frequent in this disease. This means that tuberculosis of parents is not a necessary or important factor in tuberculosis of children. Much of his argument is based on statistics, largely those of insurance companies, and he does not appear to recognize any fallacy in utilizing such for the solution of this question. Statistics of the insured are those of selected lives, and it is remarkable that he finds in them as much as he does. But those used by him, those of Marsh, for example, showed an increase of deaths from tuberculosis in those having tuberculous parentage over those with non-tuberculous antecedents.

If we take, instead of statistics, the practice of the best insurance companies in this country, we would be led to the opposite conclusion, namely, that great importance is attributed to heredity, notwithstanding the fact that the majority of sanitarians are apparently of the contrary opinion. In the latter we have theory based on what is perhaps a too exclusive contemplation of the contagious or infectious factor, and in the former a practical deduction from experience that guides financial investment. Balancing these two, one would naturally consider that the rule that governed conduct under these circumstances would be the nearest correct, and that there is a real danger of morbid heredity of tuberculosis. This view is supported by other facts, such as the results of physical examinations of consumptives as compared with the non-tuberculous. At the same congress, Professor Houzé, the distinguished anthropologist, read a paper on "Anthropology in Relation to Life Insurance," in which he gave the results of his observations of the physical characteristics of consumptives. He found that their index of vitality (Goldstein), or the proportion between the circumference of the chest and the height, is much inferior to that of healthy individuals, which he considers a very important point. Other physical peculiarities of tuberculous patients have been described by him and other observers that show how great an influence constitution and predisposition must have on the acquirement of this disorder. If one thing appears as well established as the contagiousness of the germ, it is that it requires a suitable soil, and, taking all the evidence into consideration, the latter seems on the whole the most important. Were it not so all the civilized world would become tuberculous, for we are all alike exposed to the contagion. It appears, moreover, that there is a practical liability to this diesase inherited, and that this is, in large part at least, revealed in physical peculiarities. That it is not altogether so is possible.

but we lack the facts to prove it, and it may be as safe to insure the physically well-developed offspring of consumptives as those of healthy individuals, though, as already said, there is a cloud on their record in life insurance practice. The practical fact remains that consumptives as a class are structurally below the average, and the corollary of this is that without this constitutional defect the great mass of them would not have been consumptives. Taking account of this fact, and the probable or at least possible one that there is a direct heredity of liability to the disease, we have the more reason to give attention to its prophylaxis in the way of strengthening the vital resistance, as well as to extirpating or isolating the germ. There is no better evidence of this need than the practice of life insurance companies, which are influenced not by theory, but by the direct evidence of their aggregate experience.

It may be they have not all as yet inserted in their examinations the question of the relations of the insured to possible sources of infection, the health record of the wife, for example, when the husband is an applicant for insurance, and vice versa, but it will be somewhat remarkable if, in view of the present agitation, this is not sooner or later universally included. It is safe to say, however, that heredity as regards this peculiar disease will not be neglected in the future any more than it has been in the past.

"WASHINGTON'S DEATH AND THE DOCTORS."

In the December issue of *Lippincott's Magazine,* Dr. S. Solis-Cohen reviews the treatment of Washington's last illness, concerning which a condemnatory opinion has been so freely expressed and adopted. He shows clearly that the probable cause of his death was an acute edematous laryngitis, a condition that was not generally or even imperfectly recognized until some years later, and the diagnosis of his physicians—"cynanche trachealis"—was therefore fully abreast of the medical science of the time. The essential fact that the trouble was from obstruction near the highest point of the air-passages was recognized, but the laryngoscope, that could have revealed the condition, was an invention of nearly sixty years later, while tracheotomy was then an operation rarely resorted to and, under the circumstances, perilous. Had it been tried and failed, as very easily might have happened, the charge of malpractice would have been freely made from the first, and not have been merely a "hindsight" verdict given in the light of knowledge that did not and could not have existed at the time.

Intubation, which has so largely supplanted tracheotomy, is an operation which was unknown twenty years ago, and which was therefore out of the question. Whether it would have saved the life of Washington, no one can tell, lacking as we do the exact information as to the full extent of obstruction, the degree of edema and the existence of infections or complications. "In the absence of the knowledge that has since been given to the world," Dr. Cohen asks: 'what was Washington's trusted friend and attendant, Dr. James Craik, to do? One thing, first of all—to bleed his patient freely in the hope that by mechanical and nervous influence, the general emptying of the vessels might bring about the renewal of the obstructed circulation in the larynx. Secondly, to try to drain the water of the blood by means of intestinal discharges and free sweating; hence the calomel and the antimony, which indeed served their immediate purpose. Thirdly, to remove serum from the blood in the neighborhood of the inflamed part; hence the blister. Fourthly, to try to allay the pain and oppose the local effects of cold by heat and sedative applications; hence the inhalation of steam and vinegar." Modern research, he remarks, has given us better agents than some of these, but the principles dictating their employment were good. It is questionable whether under modern treatment Washington's life could have been saved at the stage when medical attendance was called. The possibility of septic infection in his case must be kept in mind, the chill would suggest this, and some modern writers hold that edematous laryngitis is always septic and akin to erysipelas. The fatality of the affection even now is shown in the fact that of forty-one cases reported in the last ten years, but twenty-nine recovered. The charge so freely made against Washington's physicians appears to have been fairly answered by Dr. Cohen.

AS TO RED AND WHITE MEAT.

There is a rather general impression that red meats are richer in nitrogenous elements, and particularly the extractives, than the so-called white meats, although exact chemical analyses appear hitherto to have been wanting. In the hope of reaching some definite conclusion in this connection Offer and Rosenquist,[1] on the suggestion of Professor v. Noorden undertook a series of observations to determine the total amount of nitrogen, and the proportion of extractives and of bases, in various kinds of meat, from fish, fowl, cattle, fresh and smoked. It was found that the comparative results were so variable as to be without practical utility. Fish and deer alone always contained the smallest amounts of nitrogenous matters. There thus appears to be no justification for the clinical distinction that is often made between red and white meats, and we are therefore compelled to surrender another unsustained medical tradition.

AN APPARENT INJUSTICE.

The privilege of being a colonial subject of Great Britain is highly valued by some on sentimental and patriotic grounds, but it has its drawbacks. The *Indian Medical Record* calls attention to one of these of interest to our profession. It points out that while the Director General of the Indian Medical Service is offering the munificent compensation of 120 to 200 rupees ($40 to $67) per month to medical men in India for plague duty, the Indian office in London is sending out physicians for the same work on monthly salaries of 700 rupees ($230), who possess no higher qualifications, and are presumably, one might infer, from lack of experience and acclimatization, inferior to those on the spot. To make matters worse the members of the profession in England think this compensation unreasonably low for the services demanded, including as they are assumed to do, the risks of plague, murder, exposure, and overwork. Why a residence in India should so reduce the value of a physician with English qualifications is not clear, unless it be from some old insular prejudice. The claims that newly imported English physicians alone are trustworthy, and therefore worth five times the pay of local ones, requires substantiation rather than mere vague statements, especially when the same work is apparently entrusted to the lesser paid practitioners.

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[1] Berliner Klin. Woch., November, 1899, 43 and 44.

JUDGE MADE LAW.

According to an item in the daily press, a Missouri judge has recently decided that any physician who believes the case of a patient a hopeless one and fails to inform him is guilty of a breach of trust. As the paper editorially remarks, this is a decision that cuts both ways. It may be wrong under certain circumstances to encourage false hopes, but who has endowed us with prophetic powers, and what experienced physician has not seen what seemed to be hopeless cases recover? Again, how often do we not know that the abandonment of hope on the part of the patient means a quick succumbing to the disease, when otherwise life is at least prolonged, even in hopeless cases. In such a case the course indicated by this decision would simply mean murder, and if it ever compels any one to act in accord with it, the judge will be responsible. If physicians claimed to be infallible, the case would be different, and the decision might be a little more rational, but even then it would deprive them of the use of one of the important therapeutic resources, the patient's courage and hope, and it would therefore be only criminal; as it is it is both criminal and idiotic—a blunder and a crime.

MEDICAL CONFIDENCES.

A physician has been put under arrest in an eastern city on the charge of being accessory after the fact to a criminal operation. We are not fully informed as to the facts, but the charge as reported suggests some possibilities that may occur in the practice of any physician. In some states the physician can not lawfully reveal any data obtained by him in his professional capacity, but what may be a legal obligation to him on one side of an imaginary line may, it seems possible, be a crime on the other. In some localities it may come to be perilous to treat cases as they occur, without reporting all suspicious appearing facts to the authorities, while a mile or two distant such revelation would bring liability to heavy damages if not a criminal prosecution. The Massachusetts physician referred to may or may not have been cognizant of a criminal act and guilty of concealing it, but in New York he could not have done otherwise than keep his knowledge to himself. Some uniformity of laws on medical privilege is certainly desirable, and there is no reason why, save in specially excepted cases, and then before a court or the proper legal authorities, the confidences received professionally should not be as inviolable as those revealed to a lawyer or a priest. The possibility of embarrassing situations that still exists in many if not a majority of the states ought certainly to be abolished.

THE DOCTOR'S BILLS.

We publish elsewhere in this issue an appreciative editorial from a leading popular monthly, noticing the fact that the physician's services too often do not receive their due compensation; that the public conscience needs a sharpening up as regards the payment of doctors' bills. It is pleasant to see the facts thus fairly stated in such a quarter, and we trust it may do some good. There is, however, real truth in its suggestion that medical men are partly to blame by their remissness and unbusinesslike ways of collecting their fees. We are too much under the influence of the old tradition that our profession is apart from business, that business methods are out of place in an honorable profession. Just how or why it is more honorable or respectable to take an honorarium than to collect a bill is not clearly shown, though it may be admitted that asking for one's dues is not always pleasant. It is un-American at any rate to look to be paid by "tips," and that is what the honorarium really amounts to. If physicians universally followed the practice of promptly sending in bills for their services, there would be less reason for complaint of non-remuneration and slow pay, and the financial position of the profession generally would be materially improved. The valuation of our services is largely what we appear to place on them ourselves. If a doctor is hesitant about rendering a bill, his patients are equally hesitant about paying. In the long run we make more friends and win more respect by strict business methods in this business world. These are well-known truths that we will do well to keep before us a little more than has, perhaps, been our custom heretofore.

BIOLOGIC DEMONSTRATION OF ARSENIC.

It is sometimes a matter of extreme difficulty to demonstrate the presence of arsenic under various conditions when such knowledge may be highly desirable. A method proposed by Scholtz,[1] and successfully practised at the Royal Dermatological Clinic at Breslau, will therefore be warmly welcomed and receive serious consideration. Having failed, by Marsh's test, to find arsenic in the cutaneous scales from two patients suffering from psoriasis, and treated with this drug, this observer availed himself of the aid of a mold, the *Penicillium brevicaule,* which has the property, in growth on nutrient media containing arsenic, of setting free volatile arsenic acid, and this may be recognized by the intense odor of garlic. By this means, and using proper control measures, he succeeded in demonstrating the presence of the metal in even minute amounts in the scales in the two cases of psoriasis treated with arsenic. Arsenic was found also in the hair, urine, sweat and saliva, under the same conditions. In one case it was detected in the urine and the sweat two weeks after the last dose of the drug had been taken, while in two others it could not be detected in the urine and the saliva six and seven weeks respectively after the last dose. The test is said to be extremely delicate, and it should prove a most valuable adjunct in toxicologic investigation. It is a question, however, whether it would be entirely acceptable from a medicolegal point of view, as we suspect its validity would be at once attacked on the ground that many other substances are capable of giving rise to a similar odor, and it would therefore be necessary to exclude these first before the presence of arsenic could be accepted as demonstrated. (See JOURNAL, November 11, p. 1220.)

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[1] Berliner Klin. Woch., October 16, p. 913.

PECULIAR FORM OF HEPATITIS WITH NECROSIS.

Curschmann[1] describes a form of necrosis and inflammation in the liver which, beginning in the center of the lobules, may spread so as to involve the whole organ, death resulting from a species of marasmus due to suspension of the internal secretion of the liver. The process develops after occlusion of the large bile passages, as a result of the lodgment of calculi; the obstruction, however, does not need to be permanent; at the time of death there may be no biliary obstruction and no icterus; and yet biliary obstruction does play an essential rôle, because the bile passages are found to be dilated clear out into the interlobular branches, and because there is connective tissue proliferation about them, the additional factor, which directly produces the extensive necrosis, being in all probability toxicogenic bacteria whose entrance is favored by the occlusion of the biliary ducts. It evidently concerns the more remote and more or less indirect results of obstruction to the outflow of the bile; the reasoning in regard to the mode of pathogenesis is plausible, but further and more extensive study of new cases is essential before this is fully understood.

NUMBER OF RED BLOOD-CORPUSCLES IN RENAL DISEASE.

While the diagnosis of Addison's disease can be made with some degree of probability in a considerable number of cases, in only a few can it be made with certainty. While perhaps not much can be expected from such treatment as is at present at our command, nevertheless it would be desirable for clinical purposes to possess some trustworthy diagnostic sign. Different observers have recorded the existence of different states of the blood in cases of Addison's disease, although the extreme pallor often present would suggest the existence of anemia. Christomanos[2] records two observations of adrenal disease in which the number of red blood-corpuscles was found increased on repeated examination, although the percentage of hemoglobin was subnormal. One was clinically a classic example of Addison's disease, exhibiting caseous degeneration of the adrenal bodies on post-mortem examination. The other proved to be one of adenocarcinoma involving the adrenal glands. Both patients were pale, and suffered repeatedly from attacks of syncope. In neither, however, was there any wasting discharge, except in the second just before death. The state of the blood found is believed to represent only an apparent and not a true increase in the number of red corpuscles, and to be dependent on concentration of the blood. This is thought to be brought about in the following manner: Through changes in the nerve-plexuses related anatomically and physiologically to the adrenal glands, loss of tone is believed to result in the abdominal vessels, with stasis of large amounts of blood in the splanchnic area, and relative anemia or oligemia in other parts of the body. Less fluid than normal is sent to the peripheral tissues, and in the process of equalization the blood becomes concentrated. As is pointed out, this apparent increase in the number of red blood-corpuscles may be of diagnostic value, as indicating a diminution in blood-pressure, and, in the absence of other causative factors, also disease in the splanchnic area, and in this way it may be accepted as collateral evidence of the existence of adrenal disease.

THE FEMALE NURSE IN THE ARMY.

In a recent article[1] Col. Dallas Bache, assistant surgeon-general U. S. A., reviews the record of the late war as regards hospital nursing, and shows how, in the generally unprepared condition in which we entered it, the strain on the medical department was such that there was no other trained nursing force than women to be had, and that it was very properly drawn upon more extensively than would have been otherwise the case. This, however, does not in his opinion form a precedent to be followed in the future, and he details what he thinks are the limitations of the female nursing service in the army. In the regimental hospitals they have never been even suggested, and the division hospital in its proper form and function is, he believes, no place for them. In the small post hospital, intended only for the sick of a regiment or less, they are also out of place, and their introduction there would involve "much expense, idleness, risk of friction and a certain disquiet about immorality" without any commensurate gains. It is at the general, permanent or base hospitals that the trained female nurse is at her best, and here there can be no question as to her usefulness or necessity. Women nurses are not in their proper place aboard transports or hospital ships, as male nurses are less liable to disabling seasickness, require fewer facilities and comforts and can be more useful when, as often happens, there is little or no work with the sick. In this connection he notices the work of the railroad hospital train, the hospital ship *Missouri* and the general hospital at Washington Barracks, where only male nurses were employed, as showing that satisfactory results may be obtained without the introduction of female nurses into land or water transports for the sick or even, on occasion, into permanent or general hospitals. There were employed during and after the war, besides the regular hospital corps, 529 male nurses, who did the same excellent work as the women in the general hospitals and hospital ships, and in the more difficult and hazardous nursing of yellow fever. It is possible Dr. Bache's views may shock some of the worshipers of the trained nurse, who believe that "ministering angels," at least terrestrial ones, are exclusively of the female sex. His views, however, are temperately expressed and rationally supported, and he speaks from the knowledge and experience that should command respect. It does not require argument to prove that there are in war many emergencies and conditions where their physical disabilities and the due consideration for their sex absolutely prohibit the nursing services of women, however desirable under other circumstances they might be. The present army organization includes a scheme for a corps of trained female nurses suitable to the needs and conditions of the service, which is based on the knowledge and experience gained during the past two years. The question may therefore be regarded as no longer an open one.

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[1] D. Arch. f. Klin. Med., 1899, 64, 564.

[2] Berliner Klin. Woch., October 16, p. 916.

[1] The Place of the Female Nurse in the Army: Journal of the Military Service Institute.

A SHORT WAY WITH CONSUMPTIVES.

The following editorial from a Pacific coast publication reminds one of Defoe's "A Short Way with Dissenters," in general style and apparent motive.

"Our consumptive fellow citizens are protesting with all the breath of their several single lungs against the proposition to quarantine them from contagious contact with the rest of humanity. Not satisfied with the distinction conferred by an incurable disease, they would also enjoy unrestrained social relations with mankind congenially adapted to their habit anterior to their tuberculation. They seem to forget that they are not as other men, or, if they still possess some faint glimmering of their incongruity, their egotism blinds them to the fact that other men regard them askance and would rather pity them at long range than be compelled to meet them on a social equality. In the preliminary stages of this affliction, the consumptive is one of the most discourteous persons abroad. He insists upon going and coming as he pleases; he frequents the public haunts of men with a 'lightness and freedom' that appal the unconsumptive; he monopolizes 'the springs' and he infests the 'summer resorts;' he travels in public conveyances without the slightest consideration for the health or comfort of the other passengers; and he indignantly resents any effort to sidetrack him from the main traveled way to the tomb. The consumptive is not only a fiercely gregarious animal, but he is selfish withal and insists that he shall be permitted to go about seeking his long-lost health in thickly populated regions of the earth—those regions where the climate is salubrious, where the air to be breathed is still free from the germ that destroys, and where the microbe that cultures in the vitals of man has not yet pastured. It is this scattering propensity of the tuberculosissian that annoys. If he would prefer one corner of the earth and stay there he might select for his seclusion the fairest land wherein to 'wear his sables and his weeds importing health and graveness.' Especially adapted to the dire need of those who are about to perish of consumption is the climate of the Colorado desert, as exemplified by the aged inhabitants of Indio and Yuma, who were born with ailing lungs and bronchial affections. The Colorado desert is the only place on the American continent where the bacillus of tuberculosis is at a decided disadvantage, the arid atmosphere affording no nutriment for the germ, which eventually dies, literally, of starvation. If the consumptive is earnest in his desire to prolong his life, he will not object to a quarantine in the Colorado desert, where he may comfortably contemplate the passing of the multitude of the unconsumptive who objected to his peculiarly fatal disease and were themselves fated to be 'shaked of a burning quotidian tertian.' "

This is illustrated with a cut representing the hospitable desert, where the only signs of life are a cactus, a rattlesnake, and a sign-board marked "Welcome." It is, in its way, the most striking article called out by the recent agitation for the rigid quarantine of tuberculosis, and we trust its fine sarcasm will be appreciated.

Medical News.

The new Institute for Experimental Therapeutics, at Frankfort, was recently inaugurated. Erhlich is the superintendent.

Smallpox is reported to be epidemic in Kamarouska County, Quebec, where eighty-seven cases have been verified, most of them of a mild type.

Cable dispatches announce the death in Edinburgh of Dr. William Ireland Wheeler, a former president of the Royal College of Surgeons in Ireland.

The municipal authorities of Moscow have bestowed a pension of 807 roubles on the widow of Dr. Schnaubert, the late medical superintendent of the city hospital.

One of the pavilions of the hospital at Sagua, Cuba, recently collapsed during a storm, resulting in four deaths, eight severely wounded and a large number more or less injured.

The famous Breslau surgeon, Mikulicz, belongs to an old Polish noble family. His title has been officially recognized in Germany, and henceforth he will be *von Mikulicz-Radecki.*

Major-General Hutton, commander of the Canadian militia, is moving for the establishment of hospital corps among the medical students of McGill, Toronto and Trinity colleges.

Dr. Frederick Kraus of Vienna, who became prominently identified with the study of the cases of bubonic plague which occurred in the former city a short time ago, is now visiting in this country.

Following in the footsteps of the physicians of Canada, the druggists and the dentists are now agitating for some form of Dominion registration for these two professions throughout the Dominion.

A Paris exchange states that there are about five hundred English physicians in southern Africa, very few Germans. There is no medical school. The death of Dr. Coster and Dr. De Jonge, Boers, is also mentioned.

The phonograph is used in Paris as an additional means of identification of criminals by the voice, and Baudouin suggests the gait, rendered by means of the kinematograph, as a still more unfailing means of identification.

At the fourth regular meeting of the State Board of Health of Pennsylvania, held in Harrisburg some time ago, a resolution was passed requesting the State to appropriate $5000 for the suppression of smallpox in the state, and this sum has now been allowed.

Owensboro, Ky., has a new municipal hospital: the dedicatory exercises were held on Thanksgiving Day. Dr. Lewis S. McMurtry, Louisville, delivered the dedicatory address. Dr. J. A. Nelson, who is also one of the city physicians, has been elected resident physician.

On November 21, the United States Supreme Court refused to grant a writ of certiorari in the case of Joseph Wilkins, a dealer in oleomargarin, and his clerk, who were recently tried in the federal court at Philadelphia, accused of removing the labels on packages of oleomargarin.

The danger of the importation of epidemics into Europe by the opening of the Trans-Siberian railway has already been noted, and the *Semaine Med.* now announces that the true plague has appeared in several of the Chinese cities in the southern part of Manchuria, through which one of the two trunk lines passes.

It is said that "Divine Healer Schrader," who had been holding services in Martinsburg, W. Va., had charges preferred against him by Dr. S. N. Myers, a member of the Board of Health, protesting against his operating without first paying a license fee of $30. His engagement was forthwith canceled.

The German Chemical Society has had a gold medal struck in honor of Pettenkofer, on the occasion of the fiftieth year since the publication of his great work: *Aequivalentzahlen der Radicale.* His friends can obtain a handsome bronze duplicate, in a case, by sending 11 marks and 30 pf. to Inspector Fehl, Arcisstrasse 1, Munich.

The Medical College at Beyrouth, Syria, in charge of French Jesuits, is erecting additional buildings to accommodate the increasing numbers of students. The French government has designated Cornil, Walter and Mayet to serve at Beyrouth as members of the board to conduct the examinations in December, in co-operation with three prominent Turkish military pasha-professors.

The French courts, according to *Semaine Med.,* November 8, recently refused to accept as testimony a certificate delivered to the author of an accident by the two physicians who had attended the victim, and severely censured the physicians for delivering the certificate, as a "violation of professional secrecy" unless delivered in the presence and with the consent of the injured party.

The recent Italian Congress of Internal Medicine passed a resolution that the official participation of Italy in the International Medical Congress next year, depended on the recognition of Italian as one of the official languages. The *Semaine Med.* observes that since a single language seems to be an unattainable ideal for scientific gatherings, there is no valid reason why Italian and also Spanish should not be admitted.

A committee has just been organized in New York City for the purpose of assisting the work of the Red Cross in South Africa, more especially among the Boers, as their hospital resources are meager as compared with those of the British. The committee will co-operate with the Netherlands Red Cross, which is already in the field. Mr. John V. L. Pruyn, Albany, was chosen chairman, and Mr. Tunis G. Bergen, 55 Liberty St., New York City, treasurer.

The Buenos Ayres *Semana Medica* hails as great progress in international sanitary relations the departure of the sanitary brigade, sent by the Argentine Board of Public Health to Paraguay, to place itself under the orders of the local board that has charge of the campaign against the plague. It mentions that thirty-eight verified cases have occurred to date, October 12, with twenty-four deaths. Isolated cases have appeared along the coast, but the disease seems to be stationary in the capital.

Our Russian exchanges relate that Dr. Schpakowski of Odessa discovered fraudulent proceedings in the construction of the mental diseases department of the public hospital of which he had charge, and incriminated the building committee. Soon after malicious reports began to be circulated in the city, accusing him of malpractice, and one member of the committee published similar articles in the daily papers, leading to the suspension of the physician from his service. He sued the writer of the articles for "slander in the press," and after a three days' trial, with every person connected with the service summoned as witnesses, the slanderer was convicted and sentenced to four months' imprisonment. Another writer who reiterated the statements of the first, was condemned to three months.

The London *Finance Chronicle,* November 14, states that the rapid development of events in the Transvaal War, and the heavy mortality to English army officers already experienced, answers the question relative to the extra premium placed on their lives by life insurance companies. Reports show that the mortality of officers in the different battles was unusually heavy. At the battle of Glencoe, out of 193 officers engaged, 11 were killed and 23 wounded, or 17.56 per cent. At the battle of Elandslaagte, out of 155 officers engaged, 6 were killed and 30 wounded, or 13.33 per cent. At those of Rietfontein, Kimberley, Mafeking, and Ladysmith, an unusual proportion of officers were killed or wounded. During the recent Civil War only three-fourths of 1 per cent. of those engaged were insured. At the present time, in the United States, one-sixth of the inhabitants are insured.

The Kentucky State Board of Health has just held a called meeting in Henderson, to consider the steps to be taken to stamp out smallpox, which has been prevalent in that city, Owensboro and Uniontown. Many very mild cases have been found in all of these places, so mild in the latter as to cause some difference of opinion among the physicians as to its real nature. It has been pronounced genuine smallpox, and the State Board will take vigorous steps to stop its spread. The county commissioners of the county in which Uniontown is located have voted $5000 for the use of the Board, has bought a place to be used as a quarantine and detention camp, and made other plans for thorough isolation of cases and disinfection of the town.

No new cases of plague have developed since the arrival of the ship *J. W. Taylor,* previously referred to in these columns. Although repeated attempts have been made, by bacteriologic and microscopic examination, to confirm the diagnosis, the results of such examinations have proved negative, apparently solely because of the late stage of the disease at the time that the patients first came under observation at quarantine. The cargo has been discharged into lighters, the bags that formerly contained the coffee having been burned. The and finally again disinfected with fumes of sulphur then washed with a solution of bichlorid of mercury, and finally again disinfected with fumes of sulpheur and with steam. The coffee will be kept on board the lighters for several days before being landed, and the stevedores will be detained at quarantine for observation. At present the health department announces its intention not to allow the steamer to dock, but it is quite possible that this order will be rescinded. Dr. Henry B. Geddings, one of the surgeons of the U. S. Marine-Hospital Service, was ordered by the surgeon-general at Washington to make an inspection of the *J. W. Taylor,* but was prevented from doing so by the quarantine officials. A temporary injunction was obtained from Judge Lacombe, restraining them from interfering with such inspection, and subsequently Judge Thomas, in the United States District Court, Brooklyn, issued an order directing the health officer of the port to show cause on December 2 why the injunction should not be made permanent.

Food Adulteration.—The food adulteration investigation which has recently been conducted in New York (see Journal, November 25, p. 1369) was concluded on November 24, and in bringing the examination to an end Senator Mason, the chairman of the committee, expressed his opinion that its work will lead to such an establishment of public sentiment that a national law will be passed which will at least accomplish the following three things: 1. To prohibit the importation into this country of articles manufactured abroad, the sale of which is prohibited in the country of manufacture. 2. To prohibit the use of deleterious adulterations. 3. When adulterants are used to cheapen, which results in deceiving the purchaser, the law will go as far as possible to compel the manufacturer and dealer to mark the package for what it actually is.

Illinois Medical Practice Act.—An interpretation of the Medical Practice Act has been made by Judge Tuthill, Chicago, relative to the issuance of an injunction to restrain the Illinois State Board of Health from proceeding further in the steps taken to revoke the certificate of Dr. W. F. Ross, Champaign, Ill., who was summoned before the Board to answer charges of unprofessional conduct made against him, as noted in the Journal. The court holds that the State Board of Health has no authority to inquire into the actions of physicians who received certificates entitling them to practice medicine in the state prior to the passage of the Act of 1899, which went into effect July 1. The clause in the Act of 1899 in effect reads the same as that in the Act of 1887, which repealed the Act of 1877, the Board being authorized to revoke the certificates provided for in the respective Acts. As this ruling is at variance with an opinion rendered by the attorney-general, the matter will be carried to the supreme court for final decision.

Osteopathy in Kentucky.—The Kentucky State Board of Health has scored another victory in the local courts against the osteopaths, by decision of Judge Toney, rendered in a suit brought by one Nelson, an osteopath, who has made an application for a restraining order against the defendant, the State Board of Health, and a mandamus to compel the defendant to recognize a diploma which he holds from the American School of Osteopathy, Kirkesville, Mo. The judge refused both the mandamus and the injunction. In handing down his decision he said that the Kentucky statutes are very plain as to who shall practice medicine in the state, and that they require the practitioner to hold a diploma from a reputable medical college. The American School of Osteopathy is not, under the strict construction of the statutes, a reputable medical college. "The word reputable," said the judge, "has a very different meaning when applied to medical colleges, from its meaning when applied to individuals. In respect to individuals it has reference to their moral character, but when applied to medical colleges it has reference to that college's courses and to the qualifications of its faculty. In Kentucky the word 'reputable' is a synonym of the term 'good standing,' as prescribed by the statutes of other states." He further stated that a committee of three, composed of Drs. Geo. W. Griffiths, J. M. Bodine, and H. A. Cottell, Louisville, had made a thorough investigation of the Kirkesville institution, and had reported that it is not a reputable college under the strict construction of the Kentucky statutes, and that Harry Nelson, the plaintiff in this action, is not, under the ruling of the State Board of Health, which Judge Toney said was the proper tribunal to decide such matters, properly qualified to practice medicine in the state. An appeal will be taken.

Correspondence.

Exhibits at the Annual Meeting of the American Medical Association.

Indianapolis, Ind., Nov. 11, 1899.

To the Editor: In bringing to the attention of the readers of the Journal a subject which I have in view, I am obliged to briefly mention some facts that will be in the nature of stale news to many. I refer to the Pathological Department of the Indiana State Medical Society. It has already received such favorable editorial mention that we feel its introduction to the profession of the country has been quite general. The cordial reception of this unique departure is society work has been most gratifying to its promoters.

The movement began in 1897, when an appeal was made to the members of the Indiana State Medical Society for pathologic specimens. At each annual meeting since, an exhibit has been made of the specimens contributed. The collection numbered about 200 in 1898, and almost 800 in 1899. It represented a wide range of material, much of it exceedingly valuable. Besides gross pathologic specimens, photographs, etc., it included practical bacteriologic demonstrations, such as the Widal test, guinea-pig and culture experiments, which presented tangible proofs of the important relationship between bacteriology and diagnosis, as well as its bearing on all surgical and sanitary procedures, the distinctive and prominent feature of the exhibit being pathologic anatomy.

The exhibit was not placed on the shelves to be viewed in a casual manner by visitors, but small groups were taken the rounds in charge of a competent demonstrator, who called their attention to the salient features of each specimen. By this means the fullest possible benefit was derived from the collection, and great enthusiasm was aroused.

The sole compensation of the committee has been the cordial endorsement of the profession. The state society manifested its approval by appropriating $300 to take the collection to the Columbus meeting of the American Medical Association. It is worthy of remark that it was the only exhibit at that meeting, which was purely scientific in character and not prompted by a commercial motive, and it is gratifying to know that the Executive Committee of the Association has in contemplation the establishment of exhibits wholly free from commercialism. If the movement started in a modest way in our own state is to assume national proportions, we naturally feel interested [illegible] toward the furtherance of this laudable enterprise.

The first query is: "Would a pathologic exhibit in connection with the meetings of the American Medical Association be practicable?" Most assuredly, under proper restrictions and direction. If the details of the undertaking, such as the solicitation of specimens, their reception, preservation and presentation, be left entirely to a national committee, the attempt will come to naught. Such efforts would be at too long range to prove effective. Donations will be more likely to come through the appeals of local pathologic workers, than by general solicitation from a national committee. Systematic procedure will be necessary if specimens in numbers and of value are obtained. The working unit in the furtherance of this project, should be the state medical society. Each state organization should have a department of pathology, with a young man of ability and tireless energy for chairman. Let him get together even a small exhibit for the next annual meeting, and the commendatory approval of the work by his confrères will stimulate him to double zeal for the succeeding year. In three years he may be able to duplicate the work accomplished by the Indiana State Medical Society in the same period. He must expect considerable personal sacrifice and a large amount of thankless labor. His reward will come in a gratifying professional prestige.

Both expense and labor would make it impracticable and inadvisable to take the various state collections to the national meeting. Should each state organization get together a collection even one-third the size of the Indiana exhibit, the expense and labor of transportation would be so great that few would undertake it. Besides, there would be much duplication and considerable inferior material would be taken. The national exhibit would become too bulky to manage successfully. Hence a "sifting" process is advisable before transportation. By having a committee select a limited number of choice specimens, ten to fifty, according to the population of the state, they could, in most cases, be packed in a large trunk and checked through as baggage on a railroad ticket—thus making the expense very light. By limiting each state to a given quota, the "cream" of the collections would be obtained and trashy material eliminated. As a rule, no specimen should be taken to the national exhibit which did not possess distinctive merit and was thoroughly worked up—that is to say, accompanied by clinical history, photographs, microscopic sections or other evidence of study.

In the discussion of this subject, the question is naturally suggested as to the advisability of establishing a section on pathology, for the national association. Most certainly it should be done. Conducted as in the British Medical Association, its work would represent carefully prepared papers and reports of pathologic investigations. The membership of the section would be small, probably limited to specialists in that particular field. It is likely also, that very little general interest would be aroused by the section work, among those attending the sessions of the Association. The scope of influence would be greatly widened and rendered vastly more effective, if, combined with the special section work, was inaugurated a practical demonstration department—a pathologic exhibit. Let it be the work of the section to bring about a confederation of the various state exhibits. The supervision of the national exhibit would naturally fall to the officers of the section. It would be their duty to see to it that the exhibit was made attractive and instructive. That is to say, not only should the specimens be placed on shelves and properly labelled, but competent demonstrators should be at hand to answer questions and bring out the points of interest in connection with each specimen. They should devise ways and means of stimulating practical pathologic work among members of the Association. Prizes might be offered, say one for the best state exhibit, another for the best individual specimen and the third to the person presenting the greatest evidence of thorough or original investigation.

Such a pathologic exhibit would appeal to every visitor, as practical, interesting and instructive. It would prove a most potent educational factor to the rank and file of the Association members. That is not the fanciful assertion of an individual. It is the enthusiastic sentiment of the members of the Indiana State Medical Society, after three years experience with a pathologic exhibit. Practitioners everywhere would be stimulated to make post-mortem examinations. Many valuable specimens and cases would come to the notice of scientific medicine, which would otherwise be lost. A much greater benefit would accrue to practitioners themselves, in the practical pathologic knowledge gained. There would arise a proper conception of the important relationship between practical pathology and skillful diagnosis.

Another great benefit to be reckoned as a result of the movement, if carried on successfully for a few years, would be the growth of a museum of pathology—a lasting monument of the society's work. This may seem to the reader a rosy picture. Let us see the ground on which such a prediction may be made. Suppose that within the next three years the fifty state and territorial associations accumulated exhibits, averaging two hundred specimens each—less than one-third of what the Indiana society has accomplished in the same period. This would give ten thousand specimens on which to draw for the national exhibit. In ten years' time the result might easily surpass the wonderful collections of Rokitansky or Virchow. A permanent habitation would be necessary for the collection in a few years, but that is a matter which the growing wealth of the Association would easily manage.

In seeking to inaugurate a pathologic exhibit, the executive officers of the American Medical Association should receive the enthusiastic support of every member of the organization. Start the movement at once! Have an exhibit at Atlantic City next year, even if it is a small one! Let us have a wholesome digression from the selfish commercial exhibits! In conclusion, let me say that Indiana, as the pioneer in this field, stands ready to meet the requirement put on her by the national body.

Respectfully,
Frank B. Wynn, M.D.

New York City.

Assemblyman Mazet has succeeded in securing the conviction of a merchant who sold oleomargarin for butter. He had to pay a fine of $150.

A euchre party—of 400 tables—was held at the Knapp Mansion, Borough of Brooklyn, in aid of St. Catherine's Hospital, recently, over $1000 being realized.

Dr. Alvah H. Doty, health officer, has returned from his tour of inspection of European ports, the object of his trip being to familiarize himself with the methods of inspecting and transporting those intending to come to this port.

For two years past the directors of the Montefiore Home have maintained, as an experiment, a home for poor consumptives at Bedford Station, Westchester County. It has proved so successful that it has been decided to erect a sanitarium at that place, to cost $150.000.

A concert was given last Saturday at the Metropolitan Opera House in the aid of St. Mark's Hospital, at which Mme. Gadski offered her services, and made her first appearance this season. Others who took part were Mlle. Elsa Ruegger, George Hamlin, Frank King Clark, and the child pianist, Frieda Siemens.

Although, according to the present regulations, army transports are not allowed to carry officers' wives, Major Guy Henry Preston, of the 41st Vol. Inf., which sailed from this port for the Philippines, November 20, was accompanied by his wife. She accomplished this by enlisting as an army nurse, on account of her training in nursing.

This week is a notable one in the annals of hospitals, for three days are to be devoted to a celebration of the golden jubilee of St. Vincent's Hospital, which was established by the Sisters of Charity, in 1849. It was the first private hospital in New York supported by voluntary contributions, the only other hospitals then in existence being Bellevue and the New York.

TRANSVAAL ASSISTANCE.

The last of the American complement for the hospital ship *Maine,* consisting of sixteen male nurses from the Mills Training School, ten orderlies and two apothecaries, has left for England. Mrs. Whitelaw Reid, with the assistance of Drs. McCosh, Billings and McBurney, personally selected the nurses for this work. The party was in charge of Dr. Thomas Wood Hastings, recently on the staff of the Presbyterian Hospital, and a graduate of the Johns Hopkins University.

CARE OF CHILDREN.

The Charity Organization Society reports that within a year it has kept over four hundred children in their own families who would otherwise have been committed to institutions. During the past year it has cared for 2995 new families, has investigated 5185 cases for other societies and individuals, has advised and directed over 10,000 persons, has obtained permanent employment for 458 persons, and temporary work 1287 times for persons who would otherwise have required relief. Its aim is to reduce charity to scientific principles, and to insure help that does not hurt.

A HOSPITAL SWINDLER.

A man, calling himself George Gray, seems to take delight in going around from one hospital to another and endeavoring to deceive the physicians and so secure free board for a time. Incidentally he steals medical books if a suitable opportunity s afforded. He was found on the steps of the New York Hosital the other evening, breathing heavily and moaning with ain, which he said was about his heart. He was recognized y the night superintendent as a hospital swindler who had pent a few days in that hospital early in 1898, and examinaion revealed no cardiac disease. It is said that he has played he same game in Philadelphia.

NOT A CHARITABLE INSTITUTION.

A lively tilt has been going on between Attorney-General Iancock, on behalf of the State Board of Charities, and David . Hill, counsel for the New York Society for the Prevention of ruelty to Children. Mr. Gerry's contention is that this ociety is not a charitable or eleemosynary institution, and hat, therefore, the State Board of Charities has no power to isit or inspect the children's society. Such a plea seems rather idiculous to those who receive regularly each year appeals for ubscriptions to help this Society's work, and depicting in a nost pathetic way how the Society succors and aids the city's aifs.

SUIT AGAINST PATIENT'S EXECUTORS.

Dr. T. Hamilton Burch, after the death of a patient, named Iawes, in 1897, brought suit against the latter's executors to ecover nearly $12,000, which he claimed was due him for rofessional services rendered from August, 1890, to Jan. 1, 897. It was admitted that Hawes had made some payments ach year, and had paid during his lifetime a total of $1032. motion to have the case tried before a referee was denied by he supreme court last week, the court holding that the main uestion was as to whether the services had been actually endered, and whether the yearly payment had not been made nd accepted as in full for all services.

HOSPITAL'S ANNIVERSARY.

The Woman's Hospital, the pioneer institution of its kind in he state, has just celebrated, with appropriate ceremonies, its orty-fourth anniversary. Mrs. Russell Sage, chairman of the adies' Auxiliary Board, spoke of the pioneer work of the lustrious Dr. Marion Sims, and how the hospital had been ounded. The last annual report showed that 863 patients ad been treated in the indoor department, of whom 267 were ree. The new building will not be begun until $400,000 has een subscribed, but already $320,000 is promised.

REPORT OF TENEMENT HOUSE COMMITTEE.

The Tenement House Committee, consisting of prominent rchitects and public-spirited citizens, appointed under the uspices of the Charity Organization Society in December, 1898, as just issued its report. After detailing the ineffectual eforts to secure adequate legislation on tenement house reform t Albany, it speaks of the endeavors to have the recommendaions regarding the provision of ample air-space, bathing faciliies, fire-proof construction, etc., embodied in the new building ode. When the new code made its appearance, however, pracically none of the suggestions had been adopted. "Not only this code bad," says the report, "in having failed to adopt he many necessary tenement house ordinances, suggested by he Tenement House Committee, but it is very bad in a posiive sense in certain sections relating to tenement houses, espeially in Section 9, in which an attempt is made to differentiate etween an apartment house and a tenement house. This ection is so loosely worded that although legally it is of no ffect, it is likely to result in the complete breaking down of he existing tenement house law and its complete evasion in the uture."

Philadelphia.

Through the bequest of Mary A. McCunney, $500 has been eft the St. Mary's Hospital.

Dr. Joseph Sailer has been appointed assistant pathologist o the University of Pennsylvania Hospital.

Dr. Alfred Stengel delivered the address before the gradating class of nurses at the University Hospital, November 28.

Dr. Simon Flexner has been chosen by members of the ohn Guitéras Medical Society (Univ. of Pa.), as the patron of hat Society, to succeed Dr. Guitéras.

A student of the Jefferson Medical College is ill with smallpox. He is at the Municipal Hospital, and no other cases have occurred.

The opening of the James Hogg Memorial Home for Nurses of the Presbyterian Hospital occurred November 28. The building was erected by Dr. J. Renwick Hogg, as a memorial to his father, James Hogg, one of the original trustees of the institution.

The number of cases of diphtheria reported for last week was 160. This week is not quite so bad, but bad enough. At least one more focus for the dissemination of the disease has been found, and the school at Fourth and Washington streets has been ordered closed. Here five cases were reported, while in the surrounding district others have been found.

The number of deaths during the week was 386, an increase of 21 over last week, and a decrease of 63 over the corresponding period of last year. The principal causes were: alcoholism, 2; apoplexy, 17; nephritis, 24; cancer, 14; tuberculosis, 50; diabetes, 1; heart disease, 37; pneumonia, 39; peritonitis, 4; suicide, 1; infectious diseases—diphtheria, 127 cases, 24 deaths; scarlet fever, 72, with 4 deaths; typhoid fever, 43 cases, 4 deaths.

Chicago.

A death from hydrophobia was reported November 25.

Dr. J. B. Murphy has returned from New York City, where he attended the horse show.

Dr. George F. Butler has resigned his position as editor of the *Medical Standard*, and severed all connection with that journal. He proposes to establish one of his own shortly.

The friends of Dr. Frank W. Reilly, assistant commissioner of health, whose only daughter died a few weeks ago, will regret to learn of his second bereavement. His son, Robert K. Reilly, died November 23, after an operation for appendicitis.

The second annual reception and banquet of the Nu Sigma Phi, a medical fraternity, organized by the women students of the College of Physicians and Surgeons, was held at the Victoria Hotel, November 25.

An ordinance for the enforcement of municipal cleanliness and the regulation of the removal of garbage will be introduced to the city council at an early date. The ordinance requires ashes, garbage and miscellaneous matter to be kept separate, and that separate receptacles shall be provided. The throwing of refuse of any kind into the streets is prohibited.

INSPECTORS' EXAMINATION.

An examination for medical inspectors of schools will be held by the Civil Service Commission, December 9. Applicants must be legally qualified practitioners and the examination will be directed mainly toward the ability to detect the diseases of children. Application must be filed not later than December 5.

LICENSES TO PHYSICIANS.

The German Medical Society, at its last meeting, November 23, adopted a resolution relative to the granting of licenses to physicians. The Society approves of the law now in force, which requires the examination of every physician desirous of practicing in the state. It expresses, however, the desire that both an oral examination and work in the sick room be made principal parts of it. The Society, furthermore, deems an interstate law desirable, which does away with the examination demanded at present when a physician removes from one part of the Union to another.

SMALLPOX.

Smallpox is still confined to the imported cases. There are five patients at the Isolation Hospital, and all are reported to be in a favorable condition. The two new ones are a mother and child from Topeka, Kan., who are said to have contracted the disease from contact with a case of "Cuban Itch," which is prevalent in that city. It is stated that the Topeka authorities deny the presence of smallpox and that the Chicago Health Department is considering the advisability of instituting a quarantine against that locality.

MORTALITY.

A total of 381 deaths from all causes was recorded last week.

which is seventy less than the mortality of the preceding week. This decrease seems to be due to the continued mildness of the weather, as there has been a decided diminution in that class of disases caused by climatic conditions. The effect of the increased force in the inspection and fumigation bureaus of the Health Department is shown by a diminished mortality from diphtheria and scarlet fever. There has been a slight increase of mortality from "impure water diseases," which still justifies the prohibition of open lake dumping and dredging about the mouth of the river.

Cincinnati, Ohio.

Dr. Frank E. Fee has been appointed assistant to the chair of pathology in the Cincinnati College of Medicine and Surgery.

Mr. David Sinton has given to the University of Cincinnati, of which the Ohio Medical College is the medical department, $100,000 in cash to be invested at the discretion of the finance committee.

Dr. Theodore Potter, Indianapolis, Ind., at the invitation of the Cincinnati Academy of Medicine, delivered an address before that body, November 27, on "A Century in the Pathology of Tuberculosis."

Dr. Henry W. Bettman delivered a lecture on "Pestalozzi" before the Normal School, November 24. The point that the education of a child should always be adapted to the needs of his daily life was very forcibly brought out.

Dr. H. H. Wiggers, former city bacteriologist, in reply to a letter from the Health Department, advised the injection of immunizing doses of antitoxin in children exposed to infection from diphtheria, as the best way of stamping out the disease. He also cited the cases occurring at the Cincinnati Orphan Asylum several years ago, in which the disease remained steadily on the increase until all children exposed had received an immunizing injection.

Columbus, Ohio.

The Lawrence Hospital for Women is the name of a new institution in this city. It is named after Dr. F. F. Lawrence, who took an active part in entertaining the members of the Association last June. The hospital is located at 423 East Town Street. Three-fourths of the funds required to place the hospital in operation have been subscribed, and the success of the institution is assured.

The Sixty-First annual report of the Columbus State Hospital gives the population of that institution as 1402. The report shows that the admissions for the year show a steady increase of admissions of those addicted to the morphin and alcohol habits. Cases of general paresis contribute a considerable percentage and it is thought that this disease is also greatly on the increase.

London.

(From Our Regular Correspondent.)

London, Nov. 18, 1899.

SO-CALLED MASSAGE HOUSES.

The influence exercised on public opinion, by the leading organs of the profession in England, is steadily growing. Almost any pronouncement which either the *Lancet* or the *British Medical Journal* may make on the hygienic and social, or even moral problems of the day, is certain to be respectfully quoted and seriously discussed in the columns of the lay press. Much credit is now being given by the daily papers to the latter journal for its able exposure and denunciation of the scandal of the so-called "massage establishments" in the West End. Three of the cases arising out of it have come to trial, within the past ten days, and all of them have resulted in convictions with sentences of imprisonment and fine. These are only houses of ill-fame, masquerading as therapeutic establishments, and it is peculiarly fitting that they should be unmasked and brought to justice through the activity of the profession they have insulted by pretending to enroll as one of its accessories. It is gratifying also to note that the heaviest part of the punishment has been meted out to the managers of these infamous establishments, and that the igonrant and less responsible *masseuses* have been let off with much lighter sentences.

SANITARY IMPROVEMENTS.

The reformatory influences of London are taking up the housing problem in a spirit and with a vigor commensurate with its greatness and urgency. A large and influential meeting was held this week, at which, after the appointment of a royal commission having been rejected with scorn, especially in view of the twenty months' incubation of a similar illustrious body on the question of the water-supply of London, without visible result, it was unanimously resolved to push the campaign on the three lines of condemning and destruction of insanitary buildings and areas, the acquiring of powers by the County Council to go out into the country for the building of model dwellings and cottages, and the urgent development of the best and cheapest means of transit. This last development is the one which has been specially urged on the council and municipal authorities generally by our profession, instead of endeavoring to re-house the displaced inhabitants of the slums in barracks which sooner or later are certain to become overcrowded if not actual rookeries. A bodily transfer of the working population of London out into the pure air and sunshine and wider space of the suburbs, with access to their work by means of cheap and rapid transit, is a solution of the problem infinitely to be preferred. The authorities of London have taken well to heart the gratifying lesson brought home at the recent Berlin conference, that the existence of the lowest tuberculous death-rate in Europe, in English cities is due to the low average proportion of individuals per room and per house in all but the very densest quarters.

PROBLEMS OF SYMBIOSIS.

What may prove to be a valuable contribution to some of our human pathologic problems has just been made by Prof. Marshall Ward, in a recent report on the problems of symbiosis in the lower orders of plants. As is now well-known, many instances of the invasion of the tissues of one plant by another, or even of one animal organism by another, which were put down as parasitic, are now coming to be regarded as mutually advantageous to both the organisms concerned. We have for some years known that the small tubercles on the roots of the clover family, caused by the presence of a nitrifying bacillus, are of the greatest advantage to them, enabling them to utilize the atmospheric nitrogen, and it seems probable that the bacteria which normally inhabit our own alimentary canal may be of valuable assistance in the process of digestion. Professor Ward develops another very interesting possibility, in the statement that evidence is accumulating in favor of the production by one of these partner-organisms of secretions which act as a stimulant to the cells of the other, just as certain elements in our food do, or certain drugs such as tobacco, coffee and alcohol which we habitually take as part of our diet. The rôle and importance of stimulants in the nutrition of the animal body quite apart from their actual fuel or food value is one which is being remarkably expanded of late, and it now seems almost certain that a considerable amount of these bodies is an actual vital necessity in our diet. And this suggestion of mutual stimulation is even more germane to the production of immunity by even mild attacks of an infectious disease or injection with its attenuated bacilli or virus. The latest studies of our own problems in this regard point very strongly in the direction of the production by inoculation cultures of some extract which stimulates our own body cells up to the pitch of enabling them to resist any subsequent attacks of fully virulent cultures.

HOSPITAL PROBLEMS.

One of the most encouraging features of the hospital problem in London is the extent to which the classes who benefit most by the services of the hospitals are becoming contributors to their support. The reports at the late meeting of the Hospital Saturday Fund show the gratifying fact that nearly three-fourths of the $100,000 raised during the past year was collected in the workshops and business houses of London. Does it not appear as if we might have some hope, in this fact, of a natural solution of the great problem of hospital abuse, since the workmen vho are actually beginning to be the main support of the charties by which they benefit, will, as they gradually increase in ntelligence and self-respect, sooner or later begin to see the greater advantages and comfort of dealing with the physician lirectly, in his private capacity, in their own homes, instead of hrough the medium of public institutions. We can not help hinking that both the hospital abuse and the influence of the nedical clubs and friendly societies, bitter and evil as have been ome of their earlier results for the profession, will ultimately vork out their own salvation to the advantage of both parties long some such lines: either that hospitals and dispensaries vill be supported by the community, and their medical attendnts paid adequate salaries for their services, or that the comnunity will deal with the profession directly and personally. t must not be forgotten that a large proportion of these inolved in the so-called hospital abuse are from classes which ave never contributed any considerable proportion of the hysician's income in the past, and whatever element of these an be educated up to the level of a private family physician s for the most part clear gain to us.

UNDERFED SCHOOL CHILDREN.

A most important discussion was held at the last meeting f the London School Board, on the problem of underfed chilren in schools. The discussion was on the report of a strong ommittee appointed some months ago to consider the problem, nd which was unanimously of opinion that in view of at least 5,000 children in the London board schools being insufficiently ed, to a degree which practically impaired their capacity for ppreciating educational instruction, arrangements should be nade by the Board for the providing of school breakfasts and chool dinners, in such districts as seemed to need this proision. This, however, was vigorously contested by several nembers of the Board, on the ground that it would tend o diminish parental responsibility to a dangerous degree. But he position so long contended for by the profession, that it s useless endeavoring to train the intellect of a child so long s his body is obviously and strikingly below par was absoutely conceded by both sides, and the only difference was as o the means best adapted for putting the children in good hysical condition.

SMALLPOX EPIDEMIC.

The smallpox epidemic at Hull continues to persist in a most isquieting manner. No less than 100 cases have been adnitted to the new hospital, which it has been found necessary o build, during the past week, thirty-four of these in one ay. The disease is fortunately of a mild type, but its steady ersistence, now extending over six months, even in spite of he most vigorous precautions in the way of isolation and accination, is causing great rejoicing in the antivaccinationsts' camp, and providing them with a most welcome supply of ew ammunition.

A PHYSICIAN'S ERROR.

A most extraordinary mistake on the part of a medical man as just been reported from a village in South Wales. A aborer was found dead in his bed one morning, and an examiation by the local coroner's physician elicited a statement hat he had died of a broken neck, probably caused by a blow. his excited the wildest suspicions, and the unfortunate widow vas suspected and charged with the crime. The body was at nce exhumed and examined by three other physicians, with the esult that not only was the neck not broken at all, but death vas found to have been from heart failure following an attack f pneumonia. The woman was at once discharged with prouse apologies from the officers, and the judge made some strong bservations on extraordinary character of the report of he local doctor, intimating that the most substantial reparaion in his power was due to his innocent victim.

Canada.

(From Our Regular Correspondent.

Toronto, Nov. 25, 1899.

SERUM THERAPY IN CANADA IN THE SIXTIES.

Sir James Grant of Ottawa can probably justly be considered s a pioneer of serum therapy. Long before Robert Koch demonstrated the tubercle bacillus in the sputum of the subjects of phthisis pulmonalis—even as far back as 1863—Dr. Grant had published in the *London Medical Times and Gazette* a series of cases treated by him demonstrating the possibility of the ordinary vaccin acting as a curative remedy, a sort of alterative on the nutrition in certain skin diseases and contagious affections. Case 1 was of psoriasis palmaris, which, occurring in a man of 25 years, strong and robust, baffled ordinary treatment for five years. Vaccination was performed, and as the pustule advanced in formation from the third to the seventeenth day, it was noticed that the disease on the hands and fingers gradually progressed favorably until the twentieth day, the parts had regained their natural appearance and continued so. The patient had been successfully vaccinated when a child. In the second case, tinea nummularis—in a boy aged 13—the disease was completely cured on the seventeenth day, without any other treatment. In Case 3—"tubercula syphilitica"—disappearance was noted at the end of the fourth week. The last case was one of psoriasis lapræformis, in a married woman, aged 24, the mother of four children. Four weeks after the vaccination, the disease was entirely gone. In the January (1891) issue of the *Montreal Medical Journal*, comment was made on these cases, when Koch's lymph was having its innings, though they had been reported in the British Journal mentioned, in the sixties. At that time Dr. Grant considered from his findings that vaccination should be, "also extended to the treatment of many cutaneous diseases other than parasitic."

IS ICE CREAM SODA A MEDICINE?

On October 27 the final hearing was given in a charge, preferred by the Morality Department of the City of Toronto, against a well-known city druggist. The Lord's Day Alliance charged that the defendant had sold two glasses of ice cream soda on a Sunday, thereby violating the Lord's Day Act. On that day two policemen had entered the store and purchased each a glass of the cooling beverage; but as one of them had since left the city the evidence rested wholly on the testimony of his companion and fellow officer. Two doctors and a druggist were called by the defense to prove that the soda was a medicine, and that its constituents were frequently prescribed by physicians. On the side of the prosecution appeared Dr. Fotheringham, professor of materia medica in the Pharmacy College, and professor of therapeutics in Trinity Medical College, who, with several of the leading druggists, deputed that when the beverage was so ordered by physicians, it was not sold from the fountain. The police magistrate, after hearing the argument on both sides, stated that he was desirous of having the case go to a higher court for an interpretation of the law; and consequently fined the offending druggist $1 and costs, or ten days.

ANALYSIS OF BELLADONNA PLASTERS.

The Department of Inland Revenue, Ottawa, has just issued another bulletin on belladonna plasters—which goes apparently to confirm their pronouncement on the first analysis made in 1898. The Government of Canada seems to be very desirous that the greatest publicity be given to this work, which is the result of the examinations of thirty-four samples of the plasters. In the report are given the names and addresses of the vendors, the manufacturers or furnishers, as given by the vendors; the constituents of plasters, the names of the analysts and their remarks. The vendors carry on business in Montreal, Quebec, Richmond, P. Q.; Smith's Falls, Brockville, Port Hope, Peterboro, and Toronto, Ont. The total weight ranges from 6.054 to 9.405; while the percentage of alkaloids runs from .031 to .522. Chlorophyl was noted in four of these samples, while only two are up to the standard of the B. P. The others are classed as being "slightly below," "below" "much below," and "far below" the standard of the British Pharmacopeia.

Baltimore.

Dr. George C. Wegeforth has obtained a verdict of $1000 in a suit brought against the estate of a patient whom he accompanied abroad as attending physician. He claimed $1485.

Book Notices.

A System of Medicine by Many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., etc. Vol. vi and Vol. vii. Price, $5 per volume. New York: The Macmillan Company. 1899.

The sixth volume of this system finishes the consideration of diseases of the circulatory system, covers the subject of muscular affections, including myositis, Thomsen's disease and idiopathic muscular atrophies and hypertrophies, etc., and includes in the nervous diseases, the subjects of general pathology, tremor, trophoneuroses, peripheral nervous disorders and, in part, diseases of the spine. The names of the authors of the special articles on the several subjects are indicative of their character and value. Among them may be mentioned Prof. W. H. Welch, who describes thrombosis and embolism. Dr. F.W. Mott on tremor, etc., Dr. Risien Russell and Professor Horsley on spinal affections, and other names hardly less well known.

The seventh volume continues the subject of diseases of the nervous system. The longest articles, and in some respects the most notable, as carrying authority, are those by Professor Ferrier, on "Regional Diagnosis of Cerebral Disease," and Dr. Bostian, on "Aphasia," but others of lesser length are hardly less worthy of mention. The articles are carefully written and up to date, and with the bibliographies attached form convenient brief monographs of these subjects.

By a curious mistake the binders and printers of the title page have made this volume the eighth of the series, which, as the preface states, is yet to appear and will finish the diseases of the nervous system and contain also the sections on mental diseases and skin disorders. It is to be hoped it will soon be issued.

Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Third Edition. Price, $5.50 Philadelphia: W. B. Saunders. 1899.

The third edition of Anders' popular text-book comes before us slightly enlarged and with not a little of the matter rewritten. When it first appeared, but a comparatively short time ago, Anders' "Practice" immediately became a favorite on account of its practical arrangement, the excellent manner in which each subject was treated and the evident appreciation by the author of the needs of the student and the general practitioner. The same characteristics are as evident in this last edition. Among the new subjects introduced are glandular fever, ether-pneumonia, splenic anemia, meralgia paresthetica, periodic paralysis and a preliminary chapter in the section on nervous diseases. No pains have been spared to bring the work thoroughly up-to-date, and the references show that the author has utilized the most recent literature in all the work of revision. Several new illustrations are also added. In these days of nihilism in regard to drug action, it is pleasing to note that he recognizes the therapeutic value of drugs and does not share in the pessimistic views held by so many. The book is to be commended in every way.

Compend of the Practice of Medicine. Daniel E. Hughes, M. D., Chief Resident Physician, Philadelphia Hospital, etc. Sixth Physicians' Edition. Thoroughly Revised and Enlarged, Including a Section on Mental Diseases and a very Complete Section on Skin Diseases. Price, $2.25. Philadelphia: P. Blakiston's Sons & Co. 1899.

That a work has passed to the sixth edition is evidence that it meets a want, whether the latter be an essential one or not. In the present case we have a book that will be equally as convenient to the "cramming" student as to the busy practitioner, for handy reference when larger works are not convenient. There are times when it can be useful, and it appears to be on the whole as good in its special way as any of its class, and this edition will undoubtedly be as well received as were the earlier ones. There are some omissions, and the section on mental diseases is but a very brief and oddly classified account of some of these disorders, but as a whole the work gives a fair general *coup d'oeil* of the practice of medicine, not, of course, a detailed or complete one.

Igiene Della Pelle. Del Dottor Angelo Bellini.

Manuali Hoepli. Dott. O. Bernard. Gli Infortunii della Montagni. Manuale practice ad uso degli Alphinisti, delle Guide e die Portatori. Trad, con note ad aggiunte Dott. Milano. Riccardo Curti. 1900.

These are the two latest Hoepli manuals. The first is a brief semipopular and apparently sensible and scientific treatise on the hygiene of the skin. The latter is the translation of a German work, giving instruction how to meet the accidents to which mountain climbers are liable. It is fully illustrated with cuts showing the various emergency appliances. These little books ought to have an extensive circulation in their own country and serve a useful purpose.

Modern Treatment of Wounds. By John E. Summers, Jr., M.D., Surgeon-in-Chief to the Clarkson Memorial Hospital; Attending Surgeon Douglas County Hospital. Formerly Professor of the Principles and Practice of Surgery and Clinical Surgery, Omaha Medical College; Ex-President of the Western Surgical and Gynecological Association, the Nebraska State Medical Society, and the Omaha Medical Society. Price, $1.50. Omaha, Neb.: Medical Publishing Co. 1899.

This unpretentious volume is full of practical suggestions, being practically devoid of theory. The author tells what he does, gives his methods, and makes no claims as to whether these are the best or not. The practice recommended bears the impress of being based on positive convictions born of experience, and may be relied on. The author is a firm believer in asepsis and antisepsis, and does not fail to impress his readers with this fact. While not completely covering the subject, the book will be found of great assistance to the practitioner in his every-day minor surgical work.

A Treatise on Orthopedic Surgery. By Edward H. Bradford, M.D., and Robert W. Lovett, M.D. Illustrated with 621 engravings. Second Revised Edition. New York: Wm. Wood & Co, 1899.

The first edition of this book has been the standard reference book on orthopedic surgery since 1890. This second edition is an improvement on the first, in many ways. Much has been rewritten, some omissions have been made, and additions have been made, particularly in the straightening of the deformity in Pott's disease, the treatment of congenital dislocations at the hip, tendon grafting in infantile paralysis, and the treatment of lateral curvature of the spine. The illustrations are on the whole better and many of them are new.

Deaths and Obituaries.

Albert Fricke, M.D., Philadelphia, died November 17, at the age of 87. He was born in Germany, and was graduated from the University of Pennsylvania at the age of 23, immediately associating himself with the Pennsylvania Hospital.

A. W. Cantwell, M.D., city physician at Davenport, Iowa, died in that city November 22, aged 58. He was born in Ohio, received his degree of M.D. from the University of Michigan in 1869, and was a member and officer of a number of prominent societies.

William C. McDuffie, M.D., N. Y. University Medical College, 1855, died November 3, aged 70. In 1885 he was president of the North Carolina State Medical Society. He had long service at various periods as chairman of the Board of Commissioners of Cumberland County, N. C., as physician for the county poor and as a member of the Board of Aldermen. He died at his home in Fayetteville, N. C.

Frank West, M.D., Baltimore, Md., died at Asbury Park, N. J., November 18, of diabetes mellitus. He was born March 20, 1851, and received his medical degree from the University of Maryland in 1879. He was later resident physician at the University Hospital, for five years, and later physician to Deer Park Hotel. He performed the first Battey operation in Maryland in 1880.

W. H. Bennett, M.D., a graduate of the University of Maryland, 1866, died at his home in West River, Md., November 13, aged 57.

H. I. Antes, M.D., Geneseo, Ill., who was surgeon of the 33d Ill. Vol. during the Civil War, died recently....J. H. Bacheler, M.D., Grand Rapids, Mich., aged 57 years, died November 7....C. Ball, M.D., Olympia, Ky., November 17, aged 37....W. H. Beane, M.D., Middletown, Pa., November 8.... J. J. Beaman, M. D., Healdsburg, Cal., November 15, aged 83....W. C. Brown, M. D., Centralia, Mo., November 10, aged 62....S. H. Bundy, M. D., Marion, Ill., November 20, aged 77; during the Civil War he was surgeon of the 9th Ill. Vol.... G. B. Chenoweth, M.D., Huntington, Ind., November 21.... Elisha W. Cross, M.D., Rochester, Minn., November 21, aged 79....L. J. Cunkle, M.D., Madison, Kan., November 17.... John Dale, M.D., Princess Anne, Md., November 6, aged 48....Milton S. Erbman, M.D., Quakertown, Pa., November 9....C. K. Farley, M.D., San Jose, Cal., November 6, aged 77. ....J. P. Givhan, M.D., Calera, Ala., November 8....Arthur Groves, M.D., Creston, Iowa, November 15....Wm. Hartman, M.D., St. Marys, Pa., November 14, aged 66....Wm. Hewson, M.D., Detroit, Mich., November 11....J. L. Hillmantel, M.D., Milwaukee, Wis., November 7, aged 36....Thos. E. James, M.D., Greenville, S. C., November 15....H. L. Jencks, M.D., Galena, Ill., November 20....L. M. Johnston, M.D., Storm Lake, Iowa, November 20....R. H. Johnson, M.D., Vandalia, Mo., November 21, aged 57....Thos. F. Jones, M.D., Carterville, Ga., November 14, aged 60....C. M. McDonald, Leesburg, Ga., November 12....C. G. McKnight, M.D., Providence, R.I., November 4, aged 83....Daniel McMurtry, M.D., Washington, D.C., November 21....W. P. Moore, M.D., Marysville, Mo., November 17, aged 71....T. J. Newland, M.D., Ellensburg, Wash., November 20, aged 40....N. Richardson, M.D., Vernon, Ind., November 13, aged 72....C. V. Robinson, M.D., health officer of Petersburg, Va., November 22, aged 51....A. W. Sellards, M.D., Scranton, Kan., November 30, aged 55....P. M. Shaw, M.D., Rome, Iowa, November 3, aged 62....M. J. Sheppard, M.D., Westfield, Mass., November 7, aged 45....P. M. Small, M.D., Eaton, Ohio, November 3, aged 65....George F. Smith, M.D., Atlanta, Ga., November 5, aged 77....A. H. Stallard, M.D. Menlo Park, Cal., November 15, aged 77.... Wm. Templeton, M.D., Covington, Ohio, November 3....A. Turner, M.D., White Oak, Ala., November 2....J. G. Wallach, M.D., New York City, November 21, aged 44....Wm. Whitten, M.D., Pilots Point Tex., died in Chicago, November 12, aged 45....John Witherspoon, M.D., Lawrenceburg, Ky., aged 70 years....R. J. Wilson, M.D., Fort Worth, Tex., November 6, aged 25.

DEATHS ABROAD.

Professor Delaborde of Paris, and Millet an interne, recently succumbed to diphtheria professionally contracted.

Miscellany.

Carcinoma of External Ear.—According to *Deutsche Med. Woch.*, November 2, Zarniko has had occasion to observe two cases of this rare localization. One patient was operated on but there was recurrence within a year; the other was too extensive for intervention.

Diet with Excessive Production of Hydrochloric Acid.—Bachmann concludes from the careful study of the stomach chemistry of twelve subjects with "hyperchlorhydrie," *Semaine Med.*, November 11, that beefsteak and eggs promote the secretion of hydrochloric acid, while bread and vegetables do not, and butter and cream materially diminish it.

Surgery of the Lungs.—Lenhartz recently presented four patients at his Hamburg Medical Society, all permanently cured of extensive gangrenous cavities by resection of ribs and evacuation of the cavity, the last trace of the fistula healing in from 7½ weeks to 4½ months (*Deutsche Med. Woch.*, November 2. In one case the cavity was due to perforation of an echinococcus cyst in the liver, evacuated at the same time.

New Apparatus for Surgical Anesthesia.—Reverdin, *Bull. de l'Acad. de Med.*, October, has invented an apparatus which keeps the mouth open as he is convinced the fatal accidents in anesthesia occur in the early stages from a reflex inhibition of the respiratory center originating in irritation of the nose. A headpiece, such as is used with the laryngoscope, supports the rack which holds the jaws apart. He administers ether, which is thus inhaled through the wide-open mouth.

Peculiar Bullet Injury.—J. Sample, Leavenworth, Kan., 22 years old, has just recovered from an injury received by a Remington bullet which passed through both frontal lobes of his brain. He was shot in battle in the Philippines, and was left on the field several hours, thought to be dead. He was then removed to the hospital at Manila, where he remained unconscious for twenty-one days, and, after partial recovery was sent to San Francisco on the hospital ship *Relief*, and is in full possession of all his mental faculties.

Wooed and Won.—The rich old man wooes the mercenary young girl. "I am," he protests, finally, "a consistent Christian—" Here the girl laughs derisively, for religion cuts no ice with her. "Scientist!" adds the old man, finishing his sentence. It is at this point that the mercenary young girl throws herself with a glad cry upon the rich old man's neck; deeming it likely that he will die about the first time he gets sick.—*Detroit Journal.*

A Transvaal Disease.—The *Allg. Wien. Med. Ztg.* mentioned that Bordie and Hamilton of Johannesburg have noted a new disease, to which they give the name "rhinitis specifica acuta." It is caused by a diplococcus identical with the pneumococcus, but much more virulent. In thirty-six fatal cases they found special anatomo-pathologic lesions, and much pus in the sinuses of the brain; many cases are complicated with inflammation of the lungs or peritoneum, occasionally dysentery toward the last. It is particularly frequent among the workers in the gold mines.

Tuberculosis and Pregnancy.—The pernicious influence of a pregnancy, on the evolution of tuberculosis—emphasized by the Italians of late years, is confirmed by two observations related by Doléris, at the meeting of the Paris Academie de Med., October 17. In both cases the patient was tuberculous, and shortly after delivery the affection assumed a fulminating form, speedily fatal. The bacilli were found in the blood in such numbers that it was evident the conditions accompanying the childbirth had induced the sudden and rapid mobilization of the bacilli.

Unwholesome Literature.—The *Ilustracion Espanola* observes that even in these days of international prophylactic conferences and boards of public health, there is one epidemic which is more widespread and more pernicious in its effects than all the rest, and yet no steps have ever been taken by the authorities to check its ravages, the epidemic of unwholesome literature. "There should be a sanitary police force for literature, a board of public moral health, so that the youth, as he commences to read, and the laboring man, as he commences to discuss, should not be flooded with infection-breeding literature as at present."

Negative Air Douche Diagnostic in Suppurations of Nasal Sinuses.—After thoroughly cleansing and inspecting the nasal passages, the subject takes a little water in his mouth, the tube of the Politzer bulb is inserted in one nostril, the other closed tight, and the bulb compressed. The subject then swallows the water and the compression is removed from the bulb at the same time, thus aspirating the air and, by the negative pressure induced, aspirating pus out of concealed crevices. This simple procedure can be repeated once or twice, and again in a few days if necessary, after administering sodium iodid to liquefy the secretions. It will afford reliable and otherwise unattainable information, as L. Rethi of Vienna, according to *Wien. Klin. Rund.*, October 22, has established.

Fecundation Without a Female Nucleus.—Y. Delage announced at the meeting of the Paris Academy of Sciences, October 23, that fecundation of a portion of the ovum not containing a nucleus, is a process not restricted to the ovum of the sea-urchin, as he first supposed when he announced that he had succeeded in thus producing perfect embryos without a female nucleus. Later research has shown that it is a general process, and he proposes to call it "merogonia." He concludes that the essential phenomenon in fecundation is, therefore, not the fusion of a male and a female nucleus in the cytoplasm of the ovum, but the union of a spermatic nucleus with a given mass of ovular cytoplasm and the transference to this mass of a certain special plasm with energy, contained in the spermocenter.

Epithelioma on a Chancre.—In the *Med. Press and Cir.*, November 1, p. 461, is reported a case of amputation of the penis for this uncommon condition. The patient, under treatment for a syphilitic rash and an indurated chancre, rapidly improved and in a month seemed to be on a fair way to recovery. The sore, however, did not entirely heal, and induration began to recur in 1½ months, with extension of the ulceration to the tip of the glans, but continued improvement of the patient's general health and decrease of the lymphatic gland enlargement, leading to microscopic examination and confirmation of the diagnosis of epithelioma.

The American Ration in the Philippine War.—Dr. Louis L. Seaman, who has just returned to New York from the Philippines, says that the system of feeding American troops in the tropics is wrong. He argues that the present ration, against the quality of which he avers nothing, is unsuitable on the score of heat-producing properties, and beans and pork should be eliminated as the beginning of an improvement. The introduction of a sensible ration among the British troops, in Hindustan was, according to Dr. Seaman, extremely difficult, as if they did not get meat and beer they became discontented. But the ration of the soldiers in India included from four to six ounces less of meat than does the United States Army ration. The bread allowance was less by two ounces, while considerably more rice was used. Even in the instance to which reference is made, the allowance of heat-producing foods to the troops in India was far too great. Dr. Seaman, who went to Manila on his own initiative, and accepted the commission of Surgeon-Major, First Regiment U. S. Volunteer Engineers, made the remarks above to an interviewer in no carping or unpatriotic spirit, but in the hope that a searching revision of the whole matter would result in a more economical and healthful solution of the problem. The tropics are a new field to all armies, especially those dealing with a policy of occupation where somewhat unusual difficulties must be surmounted. All civilized nations improve conditions as they advance, and the U. S. Government is no exception to the rule of providing for the comfort of its citizens. Against the other sanitary provisions, he has no complaints. Minor reforms are from day to day inaugurated and less sickness will prevail when fruit and rice are more in evidence.

Public Health in Porto Rico.—General orders from some of our military headquarters are taking so wide a range of subjects as occasionally to attract the attention of health officers, medical men generally and others interested in the public wellbeing. This is the case at present in the Island of Porto Rico, where General Orders No. 170, published Oct. 24, 1899, provide for the improvement of the public health by promulgating measures for interior quarantine. Cholera, smallpox, diphtheria, scarlet fever, typhus fever, yellow fever, epidemic cerebrospinal fever, leprosy, glanders and oriental or bubonic plague are announced as the infective diseases against which the restrictive measures are directed. Practicing physicians and heads of families are required to notify health officers of the existence of any of these quarantinable diseases coming within their knowledge, and the local boards must promptly report to the Superior Board of Health at San Juan. Instructions are given for the placarding of infected houses, for the treatment of the dead body and the method of conducting the funeral, and for the disinfection of the sick-room subsequent to the recovery or death of the patient. As against smallpox, vaccination is made compulsory. The greater part of the order, however, is devoted to the control of outbreaks of yellow fever. Rules are laid down for the management of a case of the disease in the patient's own house, for dealing with the clothing and other soiled articles, for disposing of the excreta of the patient and the wastes of the sick-room and for disinfection after recovery. When cases occur among the poor, boards of health must provide nurses, houses or tents for the patients and their families, clothing for patients and suspects, physicians, food, in fact, all the appliances necessary to suppress the disease and sustain the lives of the infected people. This must be done at the public expense because the public is thereby protected. The orders extend beyond the ten specified quarantinable diseases, for it is provided that on the death of a person from tuberculosis the attending physician shall at once report the fact to the local health authorities, who shall cause the apartments and contents occupied and used by the deceased to be disinfected, objectionable articles to be destroyed and the walls and floors to be scraped and painted or whitewashed. Instructions are also given for the prevention of blindness from ophthalmia neonatorum. Treatment by the Credé method is prescribed and strict precautions are enjoined to prevent contagion. District courts have jurisdiction over violations of any of the provisions of the orders, and fine and imprisonment are provided as punishment. With the United States as guide, Porto Rico is making fast time over the roads to long life and prosperity, which modern sanitary science has opened up.

Reform of Public Charity.—Among many other reform movements in the earlier stages of development may be mentioned the reform of public charity. In many ways this step is of exceeding interest to all practitioners of medicine, and especially those of the larger cities. How best to bring about reformation along this line it seems hard to predict, but many ways have been devised, each differing from the other, to be agitated for a brief spell and then relapse into lethargy. Yet the abuse of public charity badly needs to be removed. In some respects the success of such a movement depends on the practitioners themselves; in others, on those people who are naturally bent on getting even with the world, or with some one else; in still others it may depend in part on public money spent in the wrong channel. Some time ago a committee was appointed in Philadelphia, to bring this question before the medical society of that place, and afterward to take it before the state legislature, in order to compel those applying to the free dispensaries to give information relative to their employment, income, etc., and, should false reports be made, to provide for the proper punishment. If the issue is to be combated successfully, the prime cause must be learned. In New York City, Philadelphia and Washington the influence of this movement will be felt to the greatest extent. In the former, for instance, the public money does not always go to the maintenance of public charities. Under the heading above noted, the comptroller of New York City, Mr. Bird S. Coler, writes an interesting article in a recent issue of *Appleton's Popular Science Monthly.* He says: "More than fifty years ago the city began to pay money to private institutions for the support of public charges. The system has grown without check until to-day New York contributes more than three times as much public money to private or semiprivate charities as all the other larger cities combined. The amounts so appropriated in 1898 by some of the chief cities were: Chicago, $8,796; Philadelphia, $151,020; St. Louis, $22,579; Boston, nothing; Baltimore, $227,350; Cincinnati, nothing; New Orleans, $30,110; Pittsburg, nothing; Washington, $194,500; Detroit, $8,081; Milwaukee, nothing; New York City, $3,151,580.51. In 1890 New York City paid for the support of prisoners and paupers in city institutions the sum of $1,949,100, and for paupers in private institutions the sum of $1,845,872." Of the total of $3,249,623.81 appropriated in 1898, 69 per cent., or $2,216,773 was for the care and support of children. This was believed to be due to the extreme poverty among the foreign-born population in that city. In order to remedy the evil Mr. Coler proposes to urge upon his associates in the Board of Estimate to make the amount of the appropriation dependent on the actual relief work accomplished: "The giving of public money in lump sums to private societies and institutions for miscellaneous charitable work, of which there is no public or official inspection, should be discontinued at once." This question is one which will require the attention of the best men in the profesion should any good come of it. Many methods have been ried, many resolutions failed, and the disease still exists.

The British Medical Corps.—Under this title the *Army nd Navy Journal* of November 25 has the following in relation o the weakness of the British Army Medical Department at he present time: "From an authority in British military matters we learn that the war in South Africa has been a reat strain on the Royal Army Medical Corps. Its strength ust preceding hostilities was 20 per cent. lower than it was hirty or forty years ago, and this notwithstanding an increase n the army and a great extension of its foreign duties. Matters have been so bad recently that in one military district in England there were only seven medical officers on the active list he proper complement being nineteen. The increase of the trength of the corps to 1000 has been urged, it being now 840, ut candidates have not been forthcoming to fill the existing acancies and the concession of military titles has failed to ttract young doctors into the army. The authorities have made several attempts to effect a reform without increasing he expense by ringing the changes on ranks and titles in the pparent belief that sentimental marks of esteem would be accepted in place of practical concessions. The war will undoubtedly bring the war office to a realization of the necessity of aying in hard cash and not in fancy names or meaningless itles. There is no prospect of much aid being secured from ndia, as there the average has been one medical officer for 500 miles of territory, 650 for the whole of India. The Secretary of State there has recently advertised for civilian doctors or plague duty, and such are the exigencies of plague and amine which the Indian service may have to face at any time, drawing off of medical officers for service in South Africa is not a hopeful probability. This was the situation early in October with the two countries facing each other ready for war. Who in the days of 1898 when the Medical Department of the American army was coming in for so much censure inspired argely by comparison with Grreat Britain and her supposedly uperior way of looking after her soldiers' health, would have elieved that a year later such criticisms as those we have mentioned could be brought against the system that had been held up to us as a model and pattern? What mistakes we made were the errors that were the natural outgrowth of the inaction f a peace of a generation. England's military forces by the very nature of her large colonial possessions have been kept in teady activity, and there would be small excuse for a percentage of error only one-tenth as great as ours. When there s really little to choose between them, the wonder is that we did so well."

The Fee of the Doctor.—When we are ill the fastest automobile seems to move like a snail in bringing the doctor to us. We are apt to exclaim that we "would give almost anything" or the doctor to come quickly. His coming is a most welcome presence, as he alleviates our own pain, or the ills of those we ove; we speak of him in unmeasured tones of gratitude. There eems no man for whom we would do quite so much as we would or him; no one who so thoroughly has our gratitude in his keeping. This is when we are ill, or in the first days of recovery. But some weeks or months after we are well, and when we have almost forgotten how close we were to death's door, and how skillfully the doctor snatched us out of the very jaws of death, the doctor's bill comes along. And somehow our ardor has cooled; we have forgotten the gratitude which swelled within us—and we let the doctor wait. For it is an amazing fact that of all bills sent to a family, that of the doctor is in hundreds of families the last one to be paid; and in more cases than it is pleasant to contemplate, it is never paid at all. I have recently gone to the trouble to make some inquiries into this matter, and have been astounded to find that not one-fourth of the bills sent by doctors are paid with anything like promptness. Answers to inquiries addressed to a large number of physicians in all parts of the country showed further that the actual collection of fees was so lamentably small that the facts, if printed in statistics, would scarcely be credited. For instance, one computation showed that in the case of over three hundred physicians one-fifth of their bills were either never paid or were compromised. Yet in all these cases I was careful to consult physicians whose fees were exceedingly moderate, and whose patients were principally those who could easily afford to pay their doctor's bills. In fact, poor people settle their physicians' bills more promptly than do people of larger incomes. It was actually surprising to find how many people seemed to have absolutely no sense of duty in this matter. The bills of dressmakers, florists, confectioners, haberdashers—all were paid before the doctor's turn came. In almost all cases the doctor's bill was paid last. It is the more difficult to understand this singular negligence, or reluctance, to meet promptly the fees of doctors when one stops to think how the average physician has to work for his money. In fact, there is no class of professional men in any walk of life which is harder worked than are physicians. Their skill and knowledge, first of all, are acquired at a loss of time and money inconceivable except to those who know something of the life of a medical student. When a young doctor hangs out his shingle he has to wait for years before anything like a lucrative practice comes to him. His years of young manhood are practically wasted, for it is with difficulty that a young doctor obtains the confidence of the community in which he is located. And when his practice comes, what does it mean to him? A life spent at the beck and call of any one, at all hours of the day and night, in heat or cold, in rain or shine. No matter how miserable he may feel, he must rise, if he can, and try to alleviate the ill or ail of some one who very often is not half so sick as he is himself. His life is spent in rooms of suffering. He leads, in other words, a dog's life—and worse, because he often goes out in weather when he feels it inhuman to take his horse or his dog. That is the successful doctor. And yet such a man, such a factor in our lives, is allowed to wait for his fee, when he presents his bill, for weeks, and sometimes for months. I have often thought in connection with this that, perhaps, if doctors sent their bills at shorter intervals than they now do it might mean prompter payment. Except in cases of protracted illness I have never quite understood why physicians, instead of waiting three, six, and sometimes twelve months, should not adopt the commercial method of presenting monthly bills. For it is unquestionably a trait in human nature which makes it harder to pay a bill six months after services have been performed, and when in many cases those services have slipped from the mind. Be that as it may, and even if it does seem more "professional" for doctors to submit their bills at long intervals, they ought not to be the people who should be kept waiting for their money. The very fact that they already have waited three or six months should entitle their bills to first or early consideration of payment. If some families kept their grocerymen or butchers waiting for the payment of their bills as they do their doctors, their credit would soon be looked into and regarded with suspicion. Surely the man who alleviates our pain, or mayhap saves us from death, is entitled to the same consideration as the man who feeds us. As I say when we are ill, "when the devil is sick," in other words, we would do anything for the doctor: nothing would be too great for us to do for him. But when we get well, ah, then it is different. Then how true it is, when "the devil was well—the devil a monk was he," and instead of doing everything we vowed in our illness we would do, we do nothing: we fail to show even the smallest courtesy possible by a prompt payment of our bills. There is a quickening of the conscience: a simple realization of a proper sense of duty needed in this matter of paying the fee of the doctor. It is high time, in the case of hundreds of families, that this matter should be brought home to their sense of fairness and justice. And as with them the doctors have for so many years been the last to receive their due in the payment of their bills, it would be only simple justice that hereafter "the last shall be first." No worker in the field of human industry deserves better at the hands of the people whom he serves than the doctor, and to pay his fee promptly and cheerfully is the least we can do for the service which he gives us.—*Ladies' Home Journal*, October.

First International Congress of Professional Medicine and Medical Ethics.—An international congress of professional medicine and medical ethics, organized by an official decree, June 11, 1898, is to be held at Paris, July 23 to 28, 1900, inclusive. This Congress comprehends four sections: 1. Relations of the physician to the state or corporations—laws regulating the practice of medicine; physicians and public assistance—hospitals, dispensaries, etc.; large corporations; railroads, insurance companies, manufacturing corporations, etc. 2. Relations between the physician and individuals—clients, fees, assistants, etc. 3. Relations between the physician and his colleagues—deontology or ethics. 4. Professional organizations for defense or mutual medical assistance. Communications may be in English, French or German. An abstract should be sent to the Secretary-General of the Congress, as soon as possible, and at all events before July 1, 1900. Communications in any language except French must be accompanied by an abstract twenty lines in length in French, to be read at the Congress and printed in the report of the Proceedings of the Congress. Besides the communications presented at the Congress, there will be seven addresses printed and distributed to the members in advance, which will be read at the general sessions. These addresses are on the following subjects: Fundamental principles of medical ethics, by Grasset of Montpellier; illegal practice of medicine, by Descouts of Paris; medical provident and mutual assistance associations, by Lande of Bordeaux; institutions for professional defense, by Porson of Nantes; relations of physicians to lodges, clubs, etc., by Cuylits of Brussels; organization of medical chambers and their results in the countries in which they are in operation, by Pollak of Vienna; organization of the physicians' league in Hungary, by Jendrassik of Budapesth. The addresses will be printed in French but accompanied by an abstract in English and in German.

The subscription fee of fifteen francs should be sent to the Treasurer-General of the Congress: M. P. Masson, editeur, 120 boulevard Saint-Germain, Paris. Besides the various advantages usually reserved for members of official congresses, the members are entitled to important reductions in the transportation rates on French railroads. A later circular giving the details of this matter and the completed program will be forwarded to all the physicians who have paid their subscription. Local promotion committees are at work in all the principal medical centers, and national committees have been organized and are in operation in all countries. A general circular with subscription blanks will be sent to every physician in France and to a large number of physicians in other countries during November and December, 1899, and in 1900. It is urged that physicians take particular notice of this circular and apply for one in case they fail to receive it, and to return to the treasurer the subscription blank with the amount of the subscription at their earliest convenience.

The address of the office of the Congress is Libraire Masson et Cie, 120 Boulevard Saint-Germain, Paris; president, M. L. Lereboullet, rue de Lille, 44, Paris; secretary-general, M. Jules Glover, rue du Faubourg-Poissonière, 37, Paris; treasurer-general, M. P. Masson, 120, Boulevard Saint-Germain, Paris. National Committee for the United States: chairman, Dr. G. H. Simmons, 61 Market St., Chicago; secretary, Dr. H. S. Fuller, Hartford, Conn. The German national committee includes Ewald, Schwalbe, Koerner, Pfeiffer Rumph, Strassmann, and a large number of others, twenty eight in all.

The International Congress of Professional Medicine is entirely independent of the International Congress of Medicine. The special nature of the medical questions of a professional order, which are alone to be studied and discussed, caused it to be decided that this Congress could not form a section of the latter, in which works of a purely scientific order are presented. As many physicians are interested as well in the evolution of the medical sciences as in the study of questions of professional medicine, it has been decided that the two congresses should take place one immediately after the other, the former convening first. By this arrangement physicians spending a fortnight in Paris can attend both congresses.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from November 17 to and including Nov. 23, 1899:

George W. Adair, major and surgeon U. S. A., member of a retiring board at Chicago, Ill.

Henry H. Brown, acting asst.-surgeon, from Fort Mott, N. J., to San Francisco, Cal., for duty in the Department of California.

Charles W. Farr, acting asst.-surgeon, from Elmira, N. Y., to the Department of California.

Marion O. Fulcher, acting asst.-surgeon, from Camp Meade, Pa., to duty at Madison Barracks, N. Y.

Verdo B. Gregory, acting asst.-surgeon, from Beaver Dam, Wis., to the Department of California.

Albert Hartsuff, lieutenant-colonel and deputy surgeon-genera U. S. A., member of a retiring board at Chicago, Ill.

Thomas D. Ingram, acting asst.-surgeon, from Washington, D. C., to Fort Mott, N. J.

Clarence H. Long, acting asst.-surgeon, from Washington, D. C., to the Department of California.

George Newlove, acting asst.-surgeon, member of an examining board at Fort Leavenworth, Kan.

Henry R. Stiles, captain and asst.-surgeon, U. S. A., relieved from further duty at Benica Barracks, Cal., to report at San Francisco, Cal., for assignment.

Timothy E. Wilcox, major and surgeon, U. S. A., member of a board in New York City, to examine officers for promotion.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospita Service, during the week ended Nov. 24, 1899:

SMALLPOX UNITED STATES.

Illinois: Chicago, November 11 to 18, 2 cases.
Kentucky: Louisville, November 8 to 16, 1 case.
Louisiana: New Orleans, November 11 to 18, 1 case.
Massachusetts: Chelsea, November 7 to 14, 3 cases.
Ohio: Cleveland, November 11 to 18, 1 case.
Virginia: Portsmouth, November 11 to 18, 3 cases, 1 death.
Washington: Seattle, October 7 to November 4, 5 cases.

SMALLPOX—FOREIGN.

Austria: Bohemia, Prague, October 21 to 28, 9 cases.
Belgium: Antwerp, October 21 to 28, 5 cases.
England: Bradford, October 28 to November 4, 1 case.
Gibraltar: Gibraltar, October 22 to November 4, 2 cases.
Greece: Athens, October 22 to November 4, 7 cases, 2 deaths.
India: Bombay, October 1 to 24, 9 deaths; Madras, October 14 to 20, 1 death.
Italy: Messina, October 38 to November 4, 1 death.
Japan: Osaka and Hiogo, October 1 to 14, 1 case.
Mexico: Chihuahua, November 4 to 11, 11 cases; Vera Cruz, November 2 to 9, 7 cases.
Russia: Odessa, October 22 to 28, 9 cases, 2 deaths; St. Petersburg, October 2 to November 4, 27 cases, 5 deaths; Warsaw, October 16 to 22, 7 deaths.
Straits Settlements: Singapore, August 7 to September 23, 5 deaths.
Turkey: Constantinople, October 31 to November 6, 1 case.

YELLOW FEVER—UNITED STATES.

Florida: Key West, November 11 to 20, 2 cases, 2 deaths; Miami, November 15 to 22, 25 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Brazil: Bahia, October 15 to 22, 1 case, 1 death.
Colombia: Barranquilla, October 22 to 28, 1 case, 1 death.
Cuba: Havana, November 4 to 11, 5 deaths; Nuevitas, November 14, one death on U. S. Transport *ngulls.*
Mexico: Vera Cruz, November 2 to 9, 4 cases, 3 deaths.

CHOLERA.

India: Bombay, October 17 to 24, 1 death.
Japan: Osaka and Hiogo, October 7 to 14, 1 case.

PLAGUE.

United States: New York, Quarantine, November 18, 1 suspect, death on board *J. R. Taylor*, from Santos, at sea; suspect 6 cases on board.
Brazil: Santos, October 22 to November 17, 23 cases, 10 deaths; Sa Paulo, October 17 to November 17, 2 cases.
England: Plymouth, October 9, one case on steamship *Peninsular* from Bombay.
India: Bombay, October 10 to 24, 188 deaths.

CHANGE OF ADDRESS.

Beardsley, J. A., from Moline to 523 38th St., Rock Island, Ill.
Bacon, J. B., from 4125 Drexel Boul., Chicago to Macomb, Ill.
Bellamy, R., from Newport, R. I. to 210 W. 57th St., New York City.
Byington, J. F., from 57 Washington to 11 Lincoln St., Battle Creek Mich.
Blachly, F. L , from Chicago, Ill., to Kalamazoo, Mich.
Crain, F. M., from Doland to Redfield, S. D
Cobb, E. C., from Penola to Retreat for the Sick, Richmond, Va.
Dodds, E. F., from Gulch, Colo, to Madrid, N. M.
Ferguson, J. P., from 2438 to 2408 W. Market St., Louisville, Ky.
Finlayson, D. W., from 401 W. Walnut St. to 550 Good Blk, Des Moine Iowa.
Garrett, E. H., from Los Angeles to Fresno, Cal.
Howard, J. T. D., from Keshena, Wis. to Salem, N. J.
Hillebrand, H. J., from 728 W. North to 799 W. Wrightwood Ave. Chicago
Hofmann, F , from 650 to 560 W. Chicago Ave. Chicago.
Hornor, L., from 1043 S. Emporia St. to 403 E. Douglas Ave, Witchit Kansas.
Jones, H. G., from 42 Laflin St. to 71 Warren Ave, Chicago.
Jackson, C., from Independence, Mo. to Los Angeles, Cal.
Lippincott, A. C., from Boise, Idaho, to Columbia Falls, Me.
Laubach, F. M., from Weaversville to Wilkes Barre, Pa.
Parrish, H., from Philadelphia, Pa. to 352 Scott St., Youngstown, Ohi
Sampson, C., from Provo City, Utah to Oakland, Neb.
Stowe, B., from Evanston, Ill to 51 W. 56th St., New York City.
Seaman, G. E., from 315 Goldsmith Bldg to 209 19th St., Milwaukee, Wi
Solenberger, A. R., from Chicago to 312 Tejon St., Colorado Springs, Col
Tilton, H. R., from St. Paul, Minn. to 17 S. 21st St., Philadelphia, Pa.
Thomas, J. H., from McGregor to West, Texas.
Updegrove, S., from 801 Marshall to 652 N. 8th St., Philadelphia, Pa.
Woods, W. M., from 644 S. 12th St. to Co. Hospital, Denver, Colo.
Wilson, from Ottumwa to Mediapolis, Iowa.
Williams, C. B., from Mineral Wells, Texas to Durant, I. T.

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Original Articles.

EARLY RECOGNITION OF PULMONARY TUBERCULOSIS.*

BY S. A. KNOPF, M.D.
NEW YORK CITY.

With the advent of Koch's immortal discovery of the acillus tuberculosis it was thought by many that the roblem of the early recognition of consumption had een solved. But the more careful physician soon realzed that, while the presence of the tubercle bacilli in the putum would confirm beyond a doubt his diagnosis f a tubercular disease of the respiratory tract, not inding them at one, two, or even more bacteriologic ests could not make him set aside conclusions arrived at y a careful physical examination.

If we consider the matter carefully we must admit hat in very early cases of pulmonary tuberculosis the xpulsion of bacilli with the expectoration, which is t that time exceedingly rare, can hardly be expected. There must be a disintegration of the tubercle before we an assume that the bronchial or pulmonary secretions hould contain the specific organism of tuberculosis.

Koch's next most important discovery, the use of uberculin as a test of the presence of a tubercular conlition, is certainly of the greatest diagnostic value in the ovine race, and thus indirectly of incalculable prophyactic benefit to mankind. But the utility and wisdom f the injection of tuberculin for the purpose of diagosing a disease in the human race, I for one dare to loubt. I know that, in making this statement, I am at ariance with many reputable and conscientious pracitioners; but I also know that I do not stand alone in ny convictions, and notwithstanding the criticisms which I have encountered, I do not hesitate to repeat ere what I have said in connection with this subject n my recent book[1] on tuberculosis: "Three, five or even en milligrams of tuberculin may in nine hundred and inety-nine cases do nothing but reveal a latent tuberulosis; but in the thousandth case it may cause an unxpected generalization with a fatal result. When one has witnessed such a generalization, the desire to use tuberculin for diagnostic purposes in the human race is diminished."

It was no less an authority than Virchow who first warned against the use of tuberculin, for the very reason that he believed he had demonstrated the fact that this substance arouses the latent tubercle bacilli, causing a mobilization of an army of enemies which had slumbered peacefully. A drug or any other substance which, when introduced into the system, is capable of bringing about a rise of temperature sometimes as much as 4 degrees above the normal, and which through the circulation will reach the tuberculous deposits, if such are present, irritating these latent tubercles into an active process of inflammation, must be considered a dangerous thing. Ambler of Asheville, N. C., in an article on this subject, asks whether any physician would be willing to risk the consequences of such a method of diagnosing a disease. And, addressing physicians directly, he says: "Do you believe you would carry out such a procedure in your own person under such possibilities? If you would not, you have no right to use it on your patients."[2]

And now let us ask, is the reaction obtained after the injection of tuberculin an absolute proof of the existence of a tubercular disease? It is well known that a reaction can be obtained in cases of lepra. Joseph, Kaposi, Arning,[3] Goldschmidt,[4] Babes and Kalendero,[5] and others have reported cases of that kind; but the analogy existing between lepra and tuberculosis probably accounts for this phenomenon. In a paper read before the medical society of the hospitals of Paris, Professor Netter[6] said that he had observed the characteristic reaction after injection of tuberculin in twenty-seven out of a hundred cases of individuals afflicted with other than tubercular diseases of the lungs. Neumann of Vienna, and Straus and Teissier of Paris,[7] had occasion to see the tuberculin reaction in purely syphilitic subjects. Billroth and von Eiselsberg observed reaction in actinomycosis and Trasbot in a case of cancer. Klebs, Jr., Chicago,[8] claims to have had a reaction in every case of chlorosis. Would anyone dare to say that every case of chlorosis must of necessity be of a tuberculous nature?

The natural serums obtained from the dog or goat, or the artificial serum prepared according to Hayem's formula, which were used with the hope of being less dangerous and perhaps more certain than the tuberculin, have proved in the hands of some[9] to be fully as dangerous, and in the hands of others[10] totally unreliable.

What other resources have we at our disposal to diagnose the beginning of pulmonary tuberculosis? I am glad to say these means are still numerous, and I will discuss them, not in the order of their importance, since really only the combination of several means can give us proof that our diagnosis is correct, but rather in the order of their adaptability to the use of the general practitioner who has not always easy access to the bacteriologic or electric laboratories.

In the presence of an individual in whom we suspect the beginning of pulmonary tuberculosis we must first study the anamnesis and bear in mind all that past experience in phthisiology has taught us. Man is more disposed to consumption than woman, except a woman who has gone through many childbirths in rapid succession; the poor and underfed more frequently fall victims to consumption than the rich and well nourished; the single more often than the married. According to some authors, red-haired individuals are more exposed to pulmonary tuberculosis than those having brown, blond or black hair.

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*Read before the New York County Medical Association, Nov. 20, 1899.

While we should overthrow the erroneous notion that the red-haired individual is more exposed than the blond or brunette type, it is certainly true that persons with very white skin, no matter what the color of their hair may be, if the chin, lips, pubis or arm-pits are covered with reddish hair, very often have a predisposition to consumption. Hippocrates,[11] Galen,[12] Razes,[13] Daremberg the elder,[14] and of recent authors Behier and Hardy[15], Beddoe, Landouzy[16], Dewèvre[17] and Mahoudeau[18] have written on this subject; but the distinction between the read-headed and only partially red-haired individuals has not been made clear except in the works of Hippocrates and Razes. A recent article by Armand Delpeuch[19] decides this interesting question in favor of Hippocrates, and very strongly refutes the conclusions of Landouzy, who reports having found from 75 to 100 per cent. of the red-haired individuals in his services at the Cochin and the Charité hospitals to be tuberculous. Landouzy commits the same error as many others in calling these patients a Venetian type, red hair being not by any means characteristic of the Venetian population.[20] Delpeuch makes a clear distinction between the red-haired—*erythrisme*—and the red-bearded—*erythrisme partiel*—individuals. He found that many simply red-haired individuals were entirely free from a tuberculous taint, but among 57 patients who had either blond, brown or black hair, and at the same time lips, chin or pubis covered with reddish hair, he found 52 to be distinctly tuberculous. Long before Delpeuch, a Scotch author, John Beddoe[21] had already demonstrated that red-headed individuals are not especially exposed to tuberculosis.

We will recall the professions and trades which are most exposed to consumption, and in this respect I know of no better guide than Tatham's excellent table which shows us that the agriculturist is least and the printer most exposed to pulmonary tuberculosis. The accompanying table will show the comparative mortality from tuberculosis in various occupations.

Occupation.	Phthisis.	Other diseases of respiration.	Both together.	Percentage of Phthisis to all diseases of respiration.
Agriculturist	106	115	221	48.0
Engraver, artist	146	133	279	52.3
Shopkeeper, class	172	178	350	49.1
Butcher	195	209	404	48.3
Commercial clerk	218	172	390	55.9
Watchmaker	234	193	427	54.8
Saddler	248	169	417	59.5
Shoemaker	256	181	437	58.6
Draper	260	181	441	59.0
Tailor	271	195	466	58.2
Hairdresser	276	213	489	56.4
Tobacconist, tobacco manufacturer	280	181	461	60.7
Hatter	301	210	511	58.9
Musician	322	200	522	61.7
Bookbinder	325	218	543	59.9
Printer	326	214	540	60.4

We know that pulmonary consumption develops most frequently between the ages of 17 and 35.

In inquiring into the history of our patients we should delicately and carefully deal with the subject of a possible hereditary disposition, so as not to convey to the patient the idea that because some one in his family has died of consumption, he is doomed to succumb to it. Permit me to here remark, incidentally, that in my experience nothing is often more difficult than to dissuade a tuberculous invalid from this preconceived idea, probably brought about by a popular notion and confirmed by questions asked him on that subject by every physician to whom he may have applied for counsel. Direct questioning as to the cause of the death of parents or near relatives should be avoided; one should rather endeavor to discern the hereditary tendency by exclusion. If we consider the rare occurrence of bacillary transmission on the one hand, and, on the other, how really few families there are wherein someone has not died from consumption or other tuberculous disease, I wonder if it is after all so very important to ply the patient with such questions, especially since an inherited tubercular diathesis does not preclude the chances of recovery. Prof. H. P. Loomis of this city has expressed himself in this respect as follows: "My experience has led me to believe that tuberculous heredity has very little to do with the question of a person's recovery, all other things being equal. Of twenty persons known to me who have recovered from phthisis during the past year alone, nine have pronounced tuberculous histories. One had two brothers and one sister die of phthisis."

The only direct question which I am in the habit of asking a new patient is: "Have you ever come in direct prolonged contact with a consumptive or a patient suffering from bronchial or pulmonary disease? This question is important from two points of view. It may give a clew to show whether the disease has been acquired by infection, and at the same time it will be a topic to start on when directing the patient what to do to prevent transmitting the disease to others. On the other hand, I consider a careful inquiry into the mode of life of the patient, past and present, of great importance. The probably unhygienic environments, a dissipated life, a love for strong liquors, irregularity of meals, great disappointment in matters of love or business, or other depressing factors, all will often give a clew to the origin of an acquired, or to the awakening of a latent, pulmonary tuberculosis. It is well known that many a pulmonary consumption has been preceded by digestive disturbances or typical dyspepsia. Bad eaters are nearly always candidates for consumption. In an unmarried young woman a beginning of irregularity, or a total cessation of menses is not infrequently a preliminary sign of approaching tuberculosis, just as much as the return of it in a patient under treatment should be considered as an evidence of the march toward recovery. But be always on guard when in the presence of a case with vicarious menstruation. Hemorrhage from the lungs in a young girl, even if it happens about the time for her menstrual period, often means the existence of tubercular trouble.

Of the many phthisio-genesic diseases, that is, diseases which often prepare the field for the invasion o bacilli, first come all the severer types of bronchitis pneumonia and pertussis; next, all the eruptive disease of childhood and adult life, such as measles, scarlatina variola, typhoid fever and typhus. Severe grippes alcoholism and syphilis rank no less high as phthisio genesic diseases. Pleurisy, especially if followed by ef fusion, should always be considered with suspicion; fo I belive the majority, if not all, of such cases, are of a tu berculous nature.

Bacteriologic research in pleuritic effusion is ofte very unsatisfactory. Inoculation of the guinea-pig wit the serous fluid drawn from the chest is a more satis factory method when additional evidences of the ex istence of tuberculosis are desired.

Of subjected symptoms which may be elucidated by uestioning the patient, I can offer nothing which is ot known to every practitioner. You all have seen this lass of patients, and many of them will have told you f their getting tired so easily after a little exertion. s a psychic change the patient will often himself coness an increased irritability, an indifference or dislike o the performance of duties which he formerly loved o do; or again, he himself or his friends may have noiced a decided neurasthenic condition or an inclination o melancholia. But one thing of which the patient ardly fails to speak is his increased tendency to nasoharyngeal or bronchial catarrhs. Cough, dyspnea, suerficial or deep-seated thoracic pains, occasional night weats are other frequent early signs. Of the early cough n pulmonary tuberculosis, I may say that it is usually ry and irritating, observed at first only in the evening n reclining; later the patient has his regular morning oughing spell.

In a very interesting article on "Personal Observations n Pulmonary Phthisis,"[22] McLean explains the cough hen reclining, as follows: "The mere change of posiion from the erect to the recumbent has produced an mmediate change in the circulation of the blood and ir in the pulmonary structure, disturbing the equilibium which always exists in healthy chests, controlled y the natural tension through the vasomotors. A emporary passive congestion or hyperemia is produced hereby, due to an insufficient expansion of the finer ubes and vesicles. The blood-pressure being out of roportion to the air-pressure, and the coats of the vesels being overdistended or varicosed from lack of suport, the blood-currents come under the influence of an xtraneous force, gravity; this never occurs in vessels hose coats are normal, except by complete inversion f the body or in the hypostatic congestions of long illesses. The change to the recumbent posture immediatey causes an increase in the distending force within the lood-vessels and a decrease in the amount of air in the ubes and cells. As a result of this, a backwatering of lood into the bronchial vessels and a sensation of fulness or tickling are perceived in the region of the head f the sternum. The cough that occurs is Nature's own ffort to remove this fulness, which it accomplishes at irst with only a few long breaths and coughs. If this athological condition is not relieved early, it goes on ntil it requires stronger and more prolonged effort in he act of coughing to remove it."

Coughing spells are often brought about by a simple xtra respiratory effort through laughing or excited peaking. After a little while the dry cough is supereded by one accompanied with more or less expectoraion. From this moment careful bacteriologic examnations for bacilli should be instituted. Of course, you ill have asked the patient if he has observed that his putum was tinged with red, or if he has actually exectorated blood. While I fully acknowledge the very mportant diagnostic value of pulmonary hemorrhage, arge or small, when traumatisms or heart disease can e excluded, permit me to say again, do not let he patient feel that we attach great importance to this ccurrence. Rather let us embrace this opportunity to ell our patient that one, or even several pulmonary hemorrhages do not, of necessity, lessen the chances for his recovery. I can not enter into the discussion of the various types of hemoptysis, but I firmly believe with Grancher[23], Dieulafoy[24] and others[25] that there are cases of early pulmonary hemorrhages which are actually a benefit to the tuberculous patient, causing an elimination *en masse* of the bacilli, thus finally effecting a cure. All physicians who have treated a number of tuberculous patients have among their recovered cases some where the first symptom which brought the patient to the physician was a hemorrhage of considerable magnitude. Even the cases where the patients tell us that they have had several hemorrhages, and that they felt better after each one, are not rare, and occasionally we have a chance to confirm a betterment in their condition through a physical examination after an attack of hemoptysis.

While it should be an invariable rule to take the patient's temperature at the first examination, thermometry in early pulmonary tuberculosis is only of value when practiced at regular intervals, for example four times in twenty-four hours, and for several days in succession. It is of especial value in this respect to note the rectal temperature before, and immediately after, a short rapid walk. Little, frequent or persistent elevations of one degree or more, must always be looked on as indications of a pathologic process which may have its origin in a slight tuberculous infiltration.

Not infrequently the patient will complain of palpitation of the heart. Let us here recall that early tachycardia in tuberculous subjects is a most important and, alas, also a very grave symptom.

Murat[26] recently added, to the early symptoms, a new sign which may help us in the detection of phthisis in its earlier stages. During loud and vigorous talking there is a vibration of the affected portion of the lung, recognized by the patient as a more or less disagreeable sensation. This symptom, which is entirely subjective, is explained on the physical basis, a solid body being a better transmitter than air. At times, however, this condition may have escaped the attention of the patient, since its development is slow and not in the least painful. In order to discover it the physician should have the patient make prolonged expirations, accompanied by humming. If there is solidification, the patient will then perceive the vibration of his voice. If the left side is affected it will seem to him that there is a direct communication of the voice between the larynx and that side, while nothing whatsoever is perceived in the right, healthy side of his lungs, and vice versa. Dr. Murat has found this symptom in a number of cases of pulmonary tuberculosis before any subjective signs of infiltration could be elicited. I have since had occasion to confirm the presence of this sign a few times in very early cases.

The *lisere gingival,* or reddish line along the edges of the gums, and the dilatation of the pupil on the diseased side—owing to the irritation of the sympathetic nerve at the root of the lungs—should, according to some writers[27], be included among the important early signs of pulmonary tuberculosis. The fact, however, that one finds those conditions in a number of other affections leads me to consider these symptoms only of importance when concomitant with others.

Before allowing our patient to undress for examination we should always make a careful inspection of the upper air-passages. Not only may all the pathologic conditions which stamp the patient as a candidate for consumption be located there, and by judicial treatment removed, but a careful laryngoscopic examination will often, through the peculiar anemic condition of the larynx and the general appearance of the mucous membrane, give, as Roe of Rochester[28] very happily expressed it, "a very early hint as to the probable existence of tuberculosis of the lungs." But the upper air-passages should not only be examined very carefully by rhinoscope and laryngoscope, but the secretion, especially the nasal mucus, should also be submitted to microscopic examination. However, it must be borne in mind that the presence of tubercle bacilli in the nasal mucus in individuals habitually exposed to the inhalation of dust laden with micro-organisms may be of little significance unless additional evidence should corroborate the existence of pathologic conditions. The late Professor Straus of Paris found the nasal mucus of a number of nurses and employees of the Faculty's general hospitals and libraries laden with bacilli, and the most searching physical examination of these men and women did not reveal the slightest sign of tubercular disease[29]. The observing physician will have discovered long before this, and without the aid of any instrument, a pronounced chloroanemic condition, not infrequently seen in early tuberculosis, though this discovery will probably not prevent him from examining the blood later on for the number of red blood-corpuscles and percentage of hemoglobin.

We will finally place the patient on the scales, take his height, and ascertain whether there has been any loss of weight, and if so, since when this has been observed. Here we must bear in mind the splendid work done by Dr. Papillon of Paris[30], presented in such an excellent way to the English-speaking medical world by Prof. H. P. Loomis of this city[31]. I believe I can not do better than quote, textually, Loomis' summary: "Weight, respiratory capacity, and chest measurement have no value in establishing the possibilities of the development of phthisis in themselves, but must be considered in relation to the height of the person, when they furnish three important aids to diagnosis.

"Corpulence is obtained by dividing the weight expressed in pounds by the height expressed in feet (in a normal man this should be 26; in a woman, 23). Thoracic perimeter is found by taking two measurements of the circumference of the chest—one at the moment of forced expiration, the other at the end of forced inspiration. The average of these two measurements should never be less than half the height.

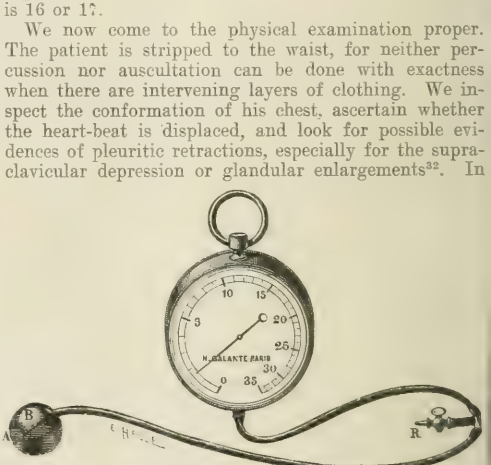
"Vital capacity is the amount of air expressed in cubic inches which can be exhaled after a full inspiration. Normally it should bear the relation to the height of 3 to 1 for a man and 2 to 1 for a woman"—i. e., for every inch of height there should be 2 or 3 cu. in. of vital capacity, respectively.

While some authors, such as Andvord, Loomis and Wells, claim to have recognized a pulse characteristic of the pretuberculous state, I confess that all I have been able to observe is that the pulse is chronically feeble, rapid, weak, and sometimes intermittent, which is characteristic of constitutional weakness of whatever cause. However, taking the arterial pressure with the aid of Potain's sphygmomanometer is a most valuable help in diagnosing an early pulmonary tuberculosis. With the aid of this instrument, which, I am sorry to say, is not much in use in this country, and which I take pleasure in illustrating here, one can easily determine the arterial pressure of the patient.

It is composed of a rubber ball, a transmission tube, a reception tube and the manometer proper. The rubber ball, distended by a pressure of 3 cm., becomes elliptic and has then a length of 3 or 4 cm., with a transverse diameter of 2.5 cm. The interior of the rubber ball is divided into four sections; three of these (A) are strong enough to resist a pressure of 30 cm., while the fourth (B) is much thinner, for the purpose of receiving the radial artery. The little receiving tube with the stop-cock (R) serves to inflate the apparatus for the purpose of having a convenient tension. Professor Potain recommends a pressure of 5 cm. for that purpose. When not in use it is best to have the stopcock open. The manometer is constructed according to the principles of the metallic barometer inclosed in a case. The interior is in communication with the rubber bulb through the transmission tube. The manometer indicates the pressure to which the air in the ball is subjected.

Papillon's recent examinations in Potain's service at the Charité in Paris have shown that when the manometer showed less than 13 cm. arterial pressure, the subject was very frequently found to be in the incipient state of tuberculosis; but when there was a concomitant nephritis, it rose 2 or 3 inches above the normal, which is 16 or 17.

We now come to the physical examination proper. The patient is stripped to the waist, for neither percussion nor auscultation can be done with exactness when there are intervening layers of clothing. We inspect the conformation of his chest, ascertain whether the heart-beat is displaced, and look for possible evidences of pleuritic retractions, especially for the supraclavicular depression or glandular enlargements[32]. In the early stages the inspection does not always reveal an emaciated form[33], nor the typical *habitus phthisicus*—long, thin stature, stooping, hollow and narrow chested, pale and wearing a tired look; but we may observe feeble respiratory movements, characteristic of nearly all candidates for consumption. The glistening eye, pasty skin, the bright color of the cheeks may be observed. Palpitation may reveal an increased vocal fremitus. But there is another symptom revealed by palpitation, which is not sufficiently emphasized in our text-books. By placing the palmar surface of th two hands successively over the whole anterior region o the chest, the patient taking deep inspirations meanwhile, one can often feel the expanding portion of th lungs through the chest wall, and with a little practic differentiate the portions which are more or less involved. The motion or impulse given to the examinin hand, by the inflation of the lungs during inspiratio is less in that part of the lung invaded by the tubercula process or impaired by pleuritic retraction than in th still healthy lung substance. With a little practice o can educate his hands so as to render palpitation a valuable additional means for localizing the beginning of tubercular process.



POTAIN'S SPHYGMOMANOMETER.

To learn all that can be learned from percussion an auscultation one should first examine the anterior po tion of the chest, the patient's arms being in the ordinary position and his back resting solidly against the straight back of a chair or against the wall. Then one should examine him standing, with the arms above the head, so as to be able to carefully percuss and auscultate the lateral portion of the chest along the axillary line. In order to examine the posterior portion of the thorax, it will be advantageous to direct the patient to fold his arms across his chest, placing his hands on the opposite shoulders, and bend slightly forward.

Mediate percussion should be done with special care above and below the clavicle, and posteriorily in the supraspinous fossa and interscapular region, with a view to detecting possible dull areas in the apices. Immediate percussion, that is to say striking the clavicle directly with hammer or finger without a plessimeter, may help to reveal a beginning process of solidification in that region. Yet at a very early period of the disease the sound perceived through percussion may tell us little per se; but the experienced percussor, if he is accustomed to use his index finger as a plessimeter, may have noticed that the elasticity of the lung substance imparted to the index finger is much less marked than in healthy subjects.

Auscultation may at a very early period give us a clew to the beginning of a tuberculous process. With my distinguished teacher, Professor Grancher of Paris,[34] I consider the low inspiratory murmur, characterized by roughness when persistent and localized in one of the apices, one of the surest and earliest signs of pulmonary tuberculosis. Not infrequently the jerky or cog-wheel inspiratory sounds, rhythmic with the heart, are also perceived. According to Professor Potain of Paris, however, this wavy and jerky respiration is simply the respiratory murmur divided by the successive pulsation of the heart. In the opinion of this authority, it is by no means pathognomonic of pulmonary tuberculosis, but can only be considered as a sign of presumption. Potain has observed the cog-wheel or jerky respiration in narrow-chested women where there has not been the least sign of pulmonary affection. Râles of a smaller magnitude may be heard, especially after having requested the patient to cough a few times. The prolonged expiratory sound is heard when the tubercular process has been already in existence for some time, the prolongation of the sound being due to a contraction of the caliber of the finer bronchioles. To Da Costa we are indebted for having called attention to the fact that in a certain number of early cases of pulmonary tuberculosis a blowing sound in the subclavian or pulmonary artery may be heard, and that a murmur is sometimes present in the subclavian or pulmonary artery before any other physical sign is detected.

At times, during the early period of the disease, one may hear at the base of the lung, on the diseased side, more or less abundant mucous râles. These râles may be perceived with the inspiratory and the expiratory sound, or at the end of inspiration only. In the latter case these râles become crepitant. They are most probably due to a localized pulmonary congestion, since the patient hardly ever complains of pain or discomfort in that region. These congestive phenomena, which are not permanent, are explained by some authors[35] as being due to enlarged glands along the tracheo-bronchial tract.

I do not favor the giving of potassium iodid in order that the stethoscopic sounds should be revealed more rapidly and with more certainty. The fact that after the administration of the iodids râles of large magnitude can be perceived is evidence that a process of congestion and softening is produced, which must be considered harmful. Zeissl,[36] Vitvitsky and others have reported cases to that effect. The case of Vitvitsky is particularly instructive and conclusive in this respect: "The patient was a woman 20 years old, who suffered from a cough, with a prickling sensation in the throat, and pain on deglutition; at the apices there were suspicious stethoscopic signs. However, the patient had no fever and her general health was excellent. A laryngoscopic examination revealed an intense congestion of the larynx and ulcerations of the vocal cords. As there was cause to suspect a syphilitic origin for this affection, ammonium iodid was prescribed in amounts of thirty grains a day. After eight days of this treatment the patient's condition was manifestly aggravated; the cough had increased, the temperature had become febrile in character, râles and a bronchial soufflé were heard in the apices, Koch's bacilli were found in the sputa, which before had been free from them, and galloping phthisis set in, which terminated very soon in death.

Through Röntgen's discovery of the X-rays we have one more way to discover an early pulmonary tuberculosis. But while most highly appreciating the work done in this direction by such men as Bouchard,[37] Kelsch,[38] Espina y Capo,[39] Stubbert,[40] Williams,[41] Crane[42] and others, I must concur with Professor Loomis when he takes exception to the statement that the fluoroscope will replace the ear, or that one can diagnose with it lesions that can not be appreciated by physical examination. All that can be said of the X-rays up to this date, in relation to our subject, is that they may be considered an interesting means to corroborate a diagnosis made by ordinary physical examination. But the last word in radiography is not spoken, and research in this field of diagnosis should be highly encouraged.

Lastly, I wish to speak of the new process of agglutination as a means of discovering early pulmonary tuberculosis. The details of these experiments, which, thanks to the kindness of Dr. Biggs, I was privileged to carry out in the research laboratory of the New York City Health Department, will be published at some future date. Here I can only give a short summary. The work was done in co-operation with Dr. William H. Park, the assistant director of the laboratory, to whom I am deeply indebted, for his was far the larger share in this rather difficult task. The serum was very kindly furnished by Dr. Lambert, from his wards at Bellevue, and came from all kinds of patients.

The experiments with the pleuritic fluid drawn from a tubercular guinea-pig were a decided success. The mixture of 1 part serum to 9 of the bacilli emulsion showed the true adherent film after eighteen hours, and when agitated it broke up into thin large flakes characteristic of the positive reaction. The mixture of 1 to 20 presented the same condition, but not quite so definite. In the hanging drop—under the microscope—the 1 to 10 mixture, besides the small groups of bacilli which were originally present in the culture itself, showed numerous newly-formed loose clumps of individual bacilli. These were absolutely motionless, having lost all Brownian movements. One part of horse serum plus 9 of the watery emulsion of bacilli appeared identical with the simple watery emulsion. On lifting these tubes the sediment broke up into grains, and no true flakes appeared in the agitated fluid. According to Courmont, this is the absolutely certain sign of a negative reaction.

In the hanging drop of both these mixtures, only tiny groups of bacilli, originally present in the culture, appeared; there remained many isolated single bacilli showing active Brownian movements.

The experiments with the serum from a number of patients suffering from various diseases were much less satisfactory. Of 10 cases distinctly diagnosed as pulmonary tuberculosis, 4 reacted positively, 2 slightly, 1 gave a doubtful reaction, and 3 were absolutely negative. One case of miliary tuberculosis gave but a slight reaction. Of cases which, so far as we could tell, were free from tuberculosis, a positive reaction was obtained in a case of postpartum hemorrhage—third day. A doubtful reaction was obtained in one of chronic hemiplegia, and a similar one in an alcoholic neuritis. Absolute negative reactions resulted from the examination of serum of a patient suffering from tertiary syphilis, and from two cases of acute articular rheumatism.

From our experience thus far we can not subscribe to the claims of Arloing and Courmont,[43] that this method is of a very great diagnostic value in the early detection of pulmonary tuberculosis, but we realize that additional experiments may modify this conclusion, and trust that further researches will continue in this interesting field.

May I close this hasty review of our present means to discover the beginning of tuberculosis with an appeal especially directed to our younger men?

Consumption, though the most fatal and widespread of all chronic diseases, is most easily cured when discovered early and when timely and judiciously treated. But in this age of bacteriology and biology do not think that these branches of medicine, valuable as they are, constitute the only and always most reliable means of discovering a disease. Do not underestimate the importance of a thorough and scientific physical diagnosis. Auscultate as many healthy and diseased chests as you can; you may thus arrive as nearly as possible at a perfect understanding of normal or abnormal chest sounds. Combine the latest bacteriologic, biologic and chemical means with the most careful physical examinations. Admire and profit by, and strive to emulate, the works of a Pasteur, a Koch, a Röntgen and a Widal; but also bow your heads in grateful admiration and recognition of what has been taught to us by the masters in physical diagnosis. Do not forget such names as Auenbrugger, Lænnec, Traube, Flint, Loomis, Skoda of the past, and Da Costa, Potain, Grancher and others of the present generation.

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(For Discussion on Dr. Knopf's paper, see p. 1492.)

BIBLIOGRAPHY.

1. Knopf, S. A.: "Pulmonary Tuberculosis. Its Modern Prophylaxis and the Treatment in Special Institutions and at Home." P. Blakiston's Son & Co., Philadelphia, 1899.
2. N. Y. Med Jour., Feb. 12, 1898.
3. Straus: "La tuberculose et son bacille." Paris, 1895.
4. Goldschmidt: "Bericht uber 5 mit dem Koch'schen Heilmittel behandelte Falle von Lepra." Berliner Klin. Woch., 1891, p. 28.
5. Babes and Kalendero: "Uber die Wirkung des Koch'schen Heilmittels bei Lepra." Deutsche Med. Woch., 1891, p. 115.
6. Gaudet: "Essay Historique sur les indices du debut de la Tuberculose Pulmonaire." Paris, 1898.
7. Straus and P. Teissier: "De l'emploi de la tuberculine comme agent revelateur de la syphilis." Semaine Med., 1893, p. 364.
8. Whittaker: "The Earliest Possible Recognition of Tuberculosis." Med. Record, Vol. li, p. 826.
9. Grancher: Bull. Med., Aug. 28, 1887, p. 817.
10. Cabot and Whoriskey: "Substitutes for Tuberculin in Diagnosis." Jour. of Boston Soc. of the Med. Sci., Jan. 17, 1899.
11. Hippocrates: "Epidemies." Livre iii, 3d section; Littre's translation, T. iii, p. 97.
12. Galen: Ed. Kuhn, T. xvii, p. 723.
13. Razes: "Hel-hauy." Ed. Sal. Favent. Venise, 1506, folio 81.
14. Daremberg: "Oeuvres choisies d'Hippocrate." 2d edition, 1855, pp. 147 and 169.
15. Behier and Hardy: "Traite elementaire de pathologie interne." Paris, 1846, Tome i, p. 273.
16. Landouzy: Congres de la Tuberculose. Paris, 1888, p. 383.
17. Dewevre: "De la predisposition des roux de la tuberculose." These de Paris, 1883.
18. Mahoudeau: Article Roux. Erythrisme in Dict. des Sciences Anthropologiques. Paris, 1884-1895.
19. "De l'habitus tuberculeux, et en particulier de la predisposition des roux de la phthisie selon Hippocrate." Presse Med. No. 57, July 19, 1899.
20. The denomination of Venetian type is probably to be traced to some paintings of famous Italian artists: A. Baschet et Feuillet de Couches "Les femmes blondes selon les paintres de l'ecole de Venice, par deux Venitiens." Paris, 1865, p. 7.
21. John Beddoe. "On the Proclivity of Phthisis Commonly Ascribed to Persons of Xanthous Complexion." Edinburgh Med. Jour., 1858-1859, Vol. iv, p. 10.
22. Med. Record, May 14, 1898.
23. Grancher: Maladies de l'appareil respiratoire. Paris, 1890, p. 199.
24. Dieulafoy: Cours de la Faculte en 1893-1894; "Hemoptysie de Defense."
25. Pidoux (1874), in his "Etudes generales et pratiques sur la phtisie," p. 276, called these hemorrhages "evacuation eliminatrice de la disposition morbide."
26. Murat: Gaz. hebd. de Med. et de Chir., March 5, 1899, p. 221. "Une signe nouveau pour le diagnostique precose." Revue de la Tuberculose, 1895.
27. Ch. Amat: "Le diagnostic precose de la tuberculose pulmonaire pour servir de base a la therapeutique prophylactique." Bull. gen. de therap., Feb. 28, 1898, p. 303.
28. Roe, J. O.: "Early Diagnosis of the Laryngoscopic Picture." N. Y. Med. Record, Vol. lv, p. 690.
29. Straus: Communication a l'Academie de Med., sur la presence des bacilles tuberculeux virulents, dans les cavites nasales d'individus sains frequentant des locaux habites par les phthisiques, July 3, 1894. La tuberculose et son bacille (1895).
30. Papillon: "Diagnostic precoce de la tuberculose pulmonaire en particulier chez les chlorotiques." These de Paris, 1897.
31. Loomis, H. P.: "The Pretuberculous Stage of Phthisis, or the Condition Which Antedates Tuberculous Development, and Some Aids to Its Diagnosis." N. Y. Med. Record, Vol. liv, p. 829.
32. In children tuberculosis is very often manifested primarily in the tracheo-bronchial glands: Osler: American Text-Book of Diseases of Children; and Rachford, "The Diagnosis of Concealed Tuberculosis." N. Y. Med. Jour., Aug. 10, 1895.
33. Meissen: "Uber die fruhe Erkennung der Lungentuberkulose." Therapeutische Monatshefte, Nov., 1898.
34. Grancher: "Maladies de l'appareil respiratoire." Paris, 1890.
35. Fernet: "Sur la diagnostic precoce de la tuberculose pulmonaire." Acad. d Med., Paris, Oct. 11, 1898, p. 253.
36. "The Dangers Following the Use of Iodized Preparations ir Tuberculous Subjects." N. Y. Med. Jour., March 5, 1898.
37. Bouchard: "Application de la radioscopie au diagnostic des maladies du thorax." Revue de la Tuberculose, Vol. iv, p. 273.
38. Kelsch: "Sur le diagnostic precoce des affections tubercu leuses du thorax par la radioscopie." Acad. de Medicine, Paris Dc. 21, 1897, p. 685.
39. Espina y Capo; Revista de medicina y. chir. Praticas, Nov 25, 1898.
40. Stubbert, J. E.: "Comparative Diagnosis in Pulmonar Tuberculosis by the Roentgen Rays." Med. Record, May 22, 1897.
41. Williams, F. H.: "Application of X-rays in Diagnosis o Tuberculosis." Med. Record, Sept. 10, 1898.
42. Crane, A. W.: "Skiascopy of the Respiratory Organs." Phila. Monthly Med. Jour., March, 1899.
43. Arloing and Courmont: "Sur la recherche et la valeur clin ique de l'agglutination du bacille de Koch par le serum de l'homme. Acadamie des Sciences, seance de Sept. 19, 1898.

THE REPAIR OF OLD LACERATIONS OF THI PELVIC FLOOR.*

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So much has been written on the subject of the perin um and pelvic floor of the female, that it would seem a most impossible to present anything new in this co nection. My anatomic studies and investigations, t gether with my clinical experience, have convinced m that much that has been written has been based on in perfect knowledge of the anatomy and mechanics of th parts. Nor is this surprising when it is seen how lamen ably defective the text-books on anatomy are in the d scription of this region.

The pelvic outlet of the male is often well describe while that of the female, even in some of our most r cent anatomies is almost entirely neglected. As th female perineum requires the attention of the surgeo many times as often as that of the male, this must considered a serious omission.

The old idea of the central perineal body forming t main support of the pelvic contents has long since be abandoned by most writers, and proper attention a study have been directed to the muscular layer with fasciæ, which forms the true support at the inferior strait.

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* Read before the Chicago Gynecological Society, Nov. 17, 1799.

It still appears difficult, however, for some to properly appreciate this supporting layer, and the value of active muscular action in its maintenance. The layer as a whole may be recognized, but the fasciæ are looked on as playing the chief rôle in the support. For instance, in one of our most recent and excellent text-books on gynecology, we find this statement[1]: "It is equally untrue that the muscles, especially the levator ani, furnish a continuous support, i. e., it is unphysiological for muscles to be in a constant state of action. Such tension would soon destroy their power. The recto-vesical fascia is in itself sufficient when intact to afford the required support." There is much contained in this statement, and as I disagree with it almost *in toto* the various points will be considered in order.

Take the point that "the recto-vesical fascia is in itself sufficient, when intact, to afford the required support." This, in my opinion, is an error. Fasciæ in themselves never furnish the kind of support here meant. There is not an instance in the human body where a fascia, aponeurosis, ligament or similar structure unaided by muscular action sustains for any great length of time any weight or tension. It is an invariable rule when weight or tension is permanently thrown on fasciæ or ligaments, through the loss of muscular power, that these structures yield and lengthen. If the muscles of one side of the back become weakened or paralyzed, scoliosis quickly results, notwithstanding the powerful ligaments binding the vertebræ together. When paralyses of certain muscles of the leg occur, the ligaments of the arch of the foot and the plantar fascia invariably yield and the arch of the foot is lost. So it is in every instance throughout the body, and so it would inevitably be were the fasciæ mentioned left alone to furnish the support at the pelvic diaphragm.

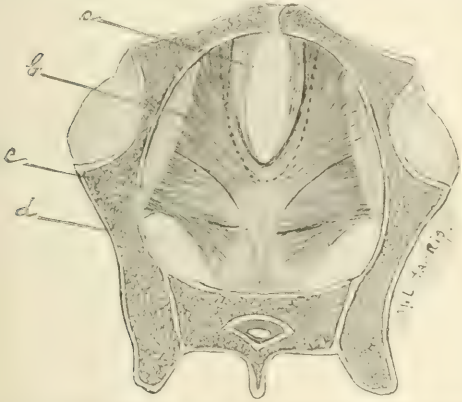

FIG. 1.—Muscles of pelvic floor viewed from above; a, pubo-rectalis partially overlapped by "b"; b, pubo-coccygeus; c, ilio-coccygeus; d ischio-coccygeus.

The second point with which I disagree is that "it is unphysiological for muscles to be in a constant state of action" as "such tension would destroy their power." The direct opposite of this is true. Every normal muscle is in a constant state of activity. This does not mean that every muscle is constantly exerting its full contractile power, but that every muscle is constantly exerting a certain amount of contractile power which varies somewhat in different muscles. Cut any normal muscle, and its ends instantly retract. This is called muscular tone, but call it what you will, it can only be interpreted as the constant exertion of a certain amount of energy due to the continuous activity, in a manner, of the contractile elements composing the muscle. As already stated, the degree of activity varies in different muscles. No one will deny that the sphincter ani practically acts continuously, and that it exerts a greater degree of tension than does the sphincter oris. The length of time which increased or so-called voluntary muscular action may be sustained varies greatly in different muscles, according to habit. For instance, one may sit for hours, reading, totally unconscious of the constant action of the muscles of the body holding him erect, of the muscles of the arm holding the book, and of the eye producing accommodation. Yet some other and less powerful muscular action, to which he was unaccustomed, would produce fatigue in a very few moments.

The third point in the above statement, namely: "It is equally untrue that the muscles, especially the levator ani, furnish a continuous support," it is evident I likewise dissent from, and in answering the first two, have, at the same time, answered it. My position then is, that the so-called pelvic diaphragm or floor depends for its support absolutely on the practically continuous activity of the intact muscles which enter into its formation, and that the fasciæ are merely adjuncts to the muscles and in themselves entirely inadequate to furnish the support required.

The muscles entering into the formation of the pelvic floor, as has been already remarked, are very imperfectly described in most text-books of anatomy. They may be divided into two layers, an inner and an outer. We will concern ourselves for a few moments with the inner only. This is the layer which enters into the formation of the diaphragma pelvis proprium and is composed of four paired muscles. It is not always easy in the human subject to draw sharp lines of demarcation between some of these muscles at all points, and some knowledge of comparative anatomy is necessary to a clear understanding of them.

Comparative anatomy teaches us that these muscles are the representatives of well developed, clearly-defined muscles which, in the lower animals, are concerned in the movements of the caudal appendage, and which, owing to the loss of the caudal appendage, and the assumption of the erect posture through evolution, have somewhat readjusted their character and attachments to conform to their new function of closing the pelvic outlet and supporting the pelvic contents. These four muscles are called the ischiococcygeus; iliococcygeus; pubococcygeus and puborectalis. (Fig. 1.)

Briefly, the ischiococcygeus arises from the spine of the ischium and is inserted into the lateral border of the lower part of the sacrum and the upper part of the coccyx. The iliococcygeus arises from the iliac portion of the obturator fascia, and is inserted into the lateral border of the lower part of the coccyx and a median raphe. These two muscles will interest us but little, and will not be further considered.

The pubococcygeus arises from the lower border of the symphysis ossis pubis, from the posterior surface of the body of the os pubis, and from the obturator fascia as far back as the iliopectineal eminence. From this somewhat extensive origin the fibers pass mesodorsad, passing by the urethra, vagina and rectum, lying cephalad of the lower portion of the iliococcygeus, and are inserted with those of its fellow from the opposite side by means of a tendinous expansion into the ventral surface of the coccyx and lower part of the sacrum, the more ventral fibers interlacing directly with those of its fellow as a girdle posterior to the rectum.

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[1] Dudley, 1898, p. 438.

The puborectalis lies beneath or caudad of the ventral portion of the pubococcygeus, from which it is separated ventrally by an intermuscular fascia. It arises from the outer lower portion of the symphysis ossis pubis or the beginning of the descending ramus and the cephalic surface of the urogenital fascia. Its fibers usually form a well-defined muscular loop which passes dorsad, encircling the rectum at the perineal flexure, when it becomes continuous with its fellow. In passing by the rectum some of its fibers enter the wall of the rectum, gradually become tendinous and pass caudad as far as the cutaneous surface. A few fibers also pass anterior to the bowel, between it and the vagina, some of them eventually becoming continuous with the transversus perinei muscle of the opposite side.

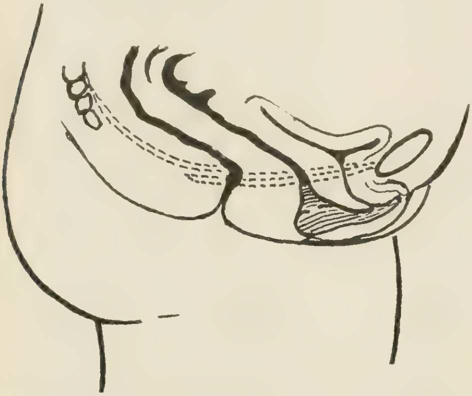

Fig. 2.—Normal relation of pelvic floor and viscera, all cavities empty (saggital section); shows marked perineal flexure of rectum and vagina; dotted line plane of pelvic floor.

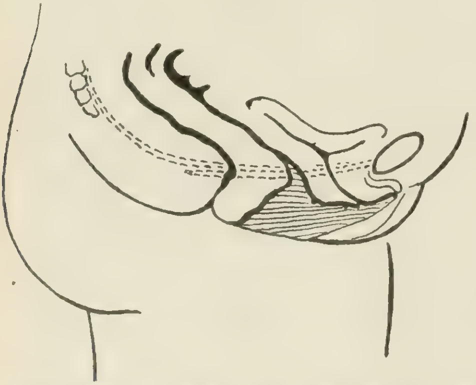

Fig. 3.—Laceration of "perineal body" (partial) without involvement of the pelvic floor. No effect produced on relations of the viscera.

The pubococcygeus and the puborectalis together form what is usually termed the levator ani muscle, and are the most important muscles of the pelvic floor. They produce the characteristic perineal flexure of the rectum and vagina, and form the chief support of the pelvic viscera. They must undergo the greatest elongation during dilatation of the pelvic outlet for the passage of a child, and, therefore, are most liable to suffer rupture or laceration, as will be shown later. The more ventrally placed fibers pass almost directly ventrodorsad, while on frontal section the muscular plane slopes from the periphery toward the center and cephalocaudad. In the space between the opposite muscles ventrally pass the vagina and urethra, and it is extremely important to clearly understand the relations of these muscles to the lateral walls of the vagina. The normal virgin vagina is not a simple straight tube. In passing from without inward the general direction of the vagina, for a distance of 1.5 to 2 cm. within the hymen, is dorsocephalad. At this point a distinct change in direction takes place and the vagina passes almost directly dorsad. The point of angulation lies opposite, and corresponds to, the perineal flexure of the rectum and is produced by the pubococcygeus and the puborectalis muscles encircling these organs at this point and drawing them forward, or in ventral direction. (Fig. 2.) With the finger introduce into the vagina one is able to easily recognize the poin of angulation, and to distinctly feel of the edge of th puborectalis muscle through the lateral wall of th vagina as it passes in its course toward the symphysis

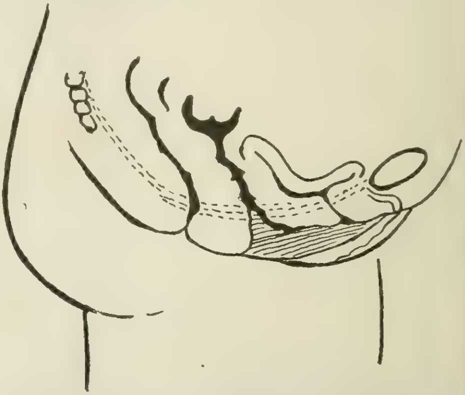

Fig. 4.—Laceration of pelvic floor, with intact perineal body. Shows loss of perineal flexure of rectum and vagina: sagging of vagina, particularly anterior wall; recession of vagina and rectum from symphysis pubis.

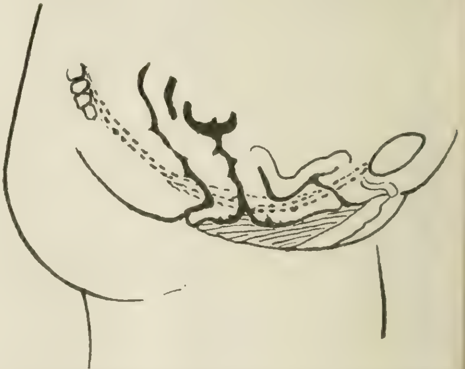

Fig. 5.—Laceration of both pelvic floor and perineal body, show exaggeration of sagging and recession shown in Fig. 4 with rectocele an vesicocele.

An incision through the lateral wall of the vagina 1 to 2 cm. to the inner side of the hymen or its remains, will expose the median edge of this muscle. It may easily be dissected up almost from its origin from the symphysis ossis pubis to the rectum, and in passing by the vagina its fibers do not enter or form an attachment directly to the vaginal wall. The muscle varies from 3 to 6 mm. in thickness, and extends, in connection with the pubococcygeus, laterally to the wall of the pelvis, the plane in the transverse direction being oblique to the wall of the vagina.

That portion of the vagina lying internal to the point of angulation or perineal flexure, and which composes by far the major portion of the canal, lies in its ventrodorsal plane almost parallel with the muscular plane and rests on it, the rectum alone intervening.

Contraction of the muscles of this layer tends to increase the perineal flexure of the rectum and vagina by drawing the parts in a ventrocephalic direction, and the opening through the muscular floor is thereby maintained ventrad of the line of gravity. The weight of the pelvic organs is thus brought to bear on the muscular layer of the pelvic floor. That mass of tissue ordinarily called the perineal body, lying between the rectum and vagina, and extending from the muscular floor of the pelvis to the cutaneous surface, has little or nothing to do with sustaining the pelvic organs.

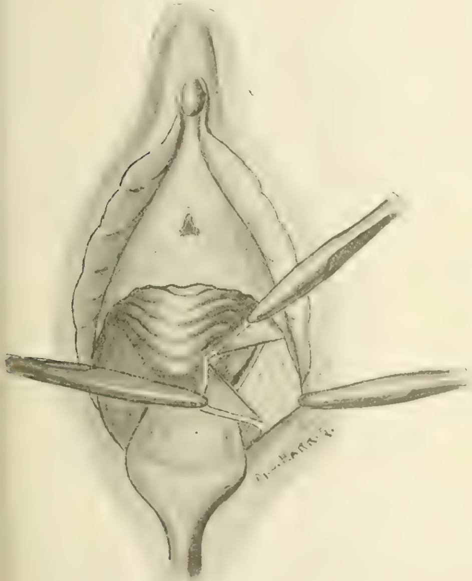

Fig. 6.—Line of incision, with flaps raised, showing edge of muscle when perineum is not torn.

We will now proceed to a consideration of those lesions of the pelvic outlet resulting from extreme dilatation. It is sufficient to say that they are produced by the passage of the child during labor, without attempting to explain the mechanism. We may divide these lesions or lacerations into three classes. 1. Those involving the muscles of the pelvic floor. (Fig. 4.) 2. Those involving the tissues between the lower end of the rectum and vaginal opening, external to the muscular layer. (Fig. 3.) 3. A combination of these two. (Fig. 5.)

Lacerations of the first class may be compound, by involving the mucosa and wall of the vagina, or they may be entirely submucous. Each of the varieties may vary greatly in degree. This is a practical division of all lacerations, and such elaborate classifications as are found in some text-books—as, for instance, in Byford's twenty-three distinct varieties of laceration are described—are confusing and without importance. Lacerations of the second class are usually of little importance, except from a cosmetic or perhaps hygienic point of view, and they will not be further separately considered here. Our remarks will be limited to old lacerations of the muscular plane.

Schatz[2] was one of the first to call attention to lacerations of these muscles, and the ill effects which followed the loss of muscular support. Since then many others have written about lacerations of these muscles with their fasciæ, but most of their statements have been founded on opinion unsupported by anatomic demonstration, hence are not always strictly in accord with the facts. As the caudal end of the spine in the human subject is much less movable than in the lower animals, we find the muscles which were active in moving this appendage in animals gradually becoming more fibrous or fascial in character in man as we approach the spine. As the extent of motion of the pelvic outlet or degree of laceration produced by the passage of the child at birth increases markedly as we proceed ventrally, we would expect to find lacerations more common and of greater degree in this portion of the pelvic floor; and such is true.

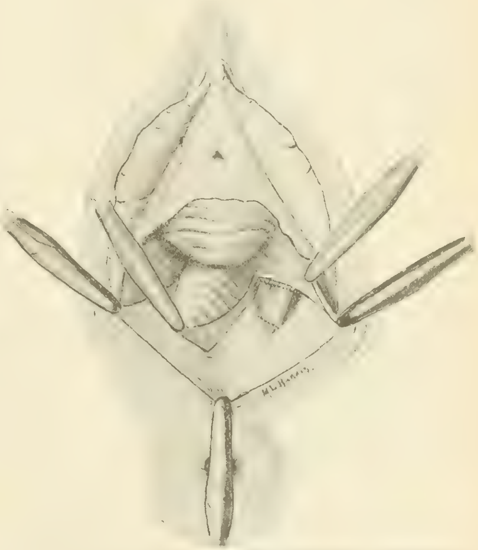

Fig. 7.—Denudation and incision when accompanied by laceration of perineum—shows muscle exposed, with part to be excised.

The puborectalis and ventral portion of the pubococcygeus are the muscles which must undergo the greatest elongation. In all cases of relaxation of the pelvic floor in which I have resected these muscles I have found lacerations of greater or less degree. Lacerations may take place in any portion of the length of the muscles, but are more common in that portion of the muscle which passes across the lateral wall of the vagina.

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[2] Archives f. Gyn., 22.

It may be that the parietal bosses or the blades of the forceps are instrumental in determining, to some extent, the location of the laceration. The location of the laceration in the muscle does not necessarily correspond to the location of the tear in the vaginal wall, and the muscle may be extensively torn without the vaginal wall giving way at all. In fact, many, if not a large majority, of the muscle lacerations, are entirely subvaginal.

The lacerations may be multiple or single. Numerous slight lacerations may take place, as shown in the specimens under the microscope. (Fig. 12.) Here the separation from any individual tear is slight, but taken altogether produces considerable lengthening of the muscle. We may have a single, complete, transverse tear of the muscle, with wide separation of the ends, as shown in Figures 10 and 11.

This is a complete laceration of the left puborectalis with the ends separated at least 1 cm. The laceration may take place opposite the dorsolateral junction of the vagina, and then corresponds to what some writers term detachment of the levator ani from the rectum. It is not a detachment of the muscle from the rectum, but a laceration of the puborectalis, just as it is about to curve posterior to the bowel. Lacerations may be lateral or bilateral. The effect of lacerations of these muscles is to produce a lengthening of the muscles with a loss of their mean effective contractile power. As a result, the ventrocentral portion of the pelvic floor moves in a caudodorsal direction. The vagina loses its perineal flexure or angularity above mentioned. The major portion of the vaginal canal, instead of lying in a nearly transverse plane, slopes ventrocaudad. The posterior vaginal wall recedes from the pubic arch and the ostium vagina is enlarged and lax. The finger no longer feels the firm edge of the puborectalis as it crosses the lateral vaginal wall. The perineal furrow has lost much of its depth, and the anus, instead of being cut by a transverse line extending between the tuber ischii, lies posterior to this line. It is not the object of this paper to discuss the remote effects on the pelvic viscera of this change of position and loss of tone in the pelvic floor.

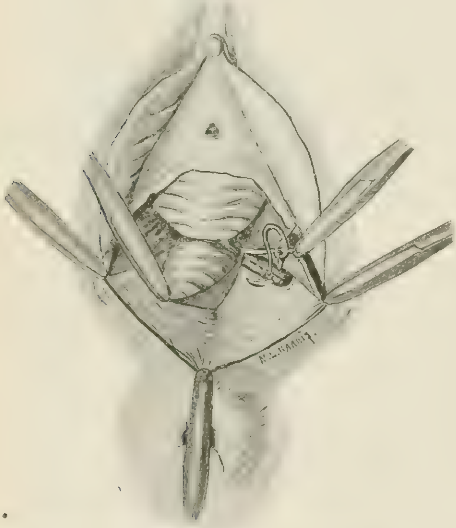

Fig. 8.—Muscle drawn together with buried catgut suture.

These lacerations of the muscles may be associated with laceration of the true or cutaneous perineum, or this part may be intact. The correction of the condition resulting from these lacerations of the muscles must be sought in shortening the muscles torn; in a removal of the cicatricial tissue intervening between the separated torn ends, with a restoration of the continuity of the muscles.

The Emmet operation and all denudation methods of the vaginal orifice, which are the operations in almost universal use to-day, fail to restore, in any degree, the real pelvic floor. They are suitable in lacerations of the so-called perineal body, but not when the muscles are torn. The method which I wish to present involves a resection of a portion of the puborectalis muscle so as to shorten up the pelvic floor. It is performed as follows: When laceration of the perineum is present, the denudation of this part is made in the usual manner. (Fig. 7.) If this body be intact, the denudation is omitted. An incision is then carried up each lateral wall of the vagina from 3 to 5 cm., a little posterior to the center. (Fig. 6.) The vaginal wall is raised in a flap

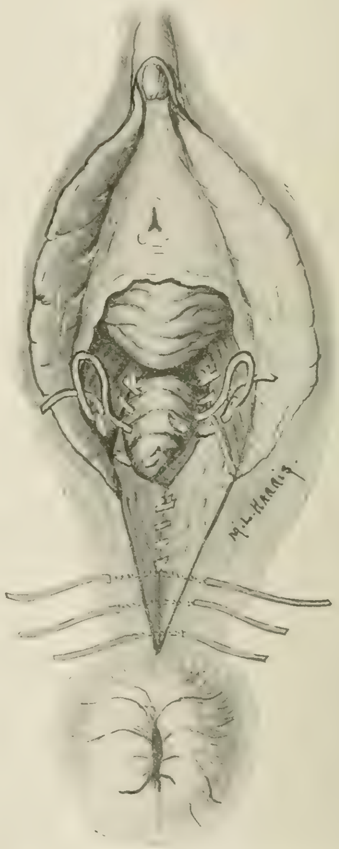

Fig. 9.—Closure of vaginal wall over the sutured muscle and of the perineum.

each way from the incision. The edge of the muscle can now usually be felt, and an incision parallel therewith is made through the perivaginal connective tissue, exposing the muscle, which may easily be dissected out with the handle of a scalpel, blunt dissector or the finger, ventrally, as far as the symphysis and dorsally until it curves around posterior to the rectum. Should the muscle have been so ruptured and its ends so retracted that its edge can not be distinctly felt, the incision is made along the line which the muscle should occupy, and careful dissection made for separated ends. The ends of the muscle will be found connected by cicatricial tissue. I have not yet failed to find the remains of the muscle even when badly torn, and the ends widely separated.

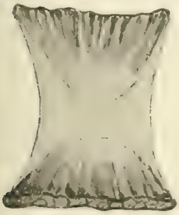

Fig. 10. Section of pubo-rectalis removed, showing complete rupture of muscle with separation of ends—actual size.

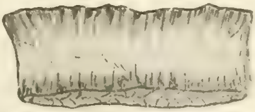

Fig. 11. Section of pubo-rectalis removed, showing cicatricial union after laceration actual size.

The muscle may vary considerably in thickness, and, when very thin and ribbon-like, it may be torn by a careless dissection. When multiple small lacerations are present, the muscle will not be entirely separated at any point, but will be lengthened, loose and relaxed. In width or distance laterally, the muscle may be dissected from 3 to 5 cm. When it has been well freed, forceps should be placed on either side of the portion to be resected, so that the ends when cut shall not retract out of reach. The portion resected should correspond to the point of laceration if found, or when no distinct separation is found, to about the center of the muscle. The extent of the piece resected will depend on the amount of separation or the degree of lengthening and relaxation. It should be sufficient so that when the ends are drawn together the floor of the pelvis will be restored to its normal position and degree of tension. The ends of the muscle are then sutured together with an interrupted or continuous catgut stitch which, of course, remains buried. (Fig. 8.) The opposite side is treated in a similar manner, when the incisions in the lateral walls of the vagina are closed by a catgut suture. (Fig. 9.) This latter suturing should be thoroughly done so that no openings will remain through which fluids or infection may reach the deeper parts. When the perineum has been torn, this is closed in the usual way. I generally close the deep portion with a buried catgut suture, and then use silkworm gut for the cutaneous surface. The hemorrhage, in dissecting and dividing the muscle, is sometimes free but never great. It is very essential that all hemorrhage be completely controlled before closing the wounds, so that a hematoma may not develop in the deep parts and compromise the results of the operation. The subsequent care is that usual after a perineorraphy.

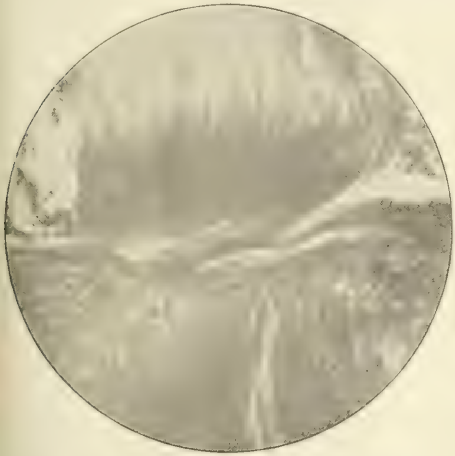

Fig. 12.—Laceration of pubo-rectalis muscle. Leitz obj. 3; eye. a.

This operation restores the pelvic floor to its normal position. The vaginal opening is carried ventrad, the angularity or perineal flexure of the vagina returns, the posterior wall of the vagina loses its sagging and becomes more nearly horizontal again, and a good support is re-established. The clinical results have been very good. The muscles retain their active contractile power, and their elevating and sphincteric action at the vaginal opening is again restored and well maintained.

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DISCUSSION.

Dr. A. Goldspohn—For a number of years I have felt the inability of most of the current plastic operations on the female perineum, to accomplish any lasting good. Various authors refer to the levator ani muscle and the pelvic fascia as relevant factors; but they do not really attempt to lay these structures bare sufficiently, much less to bring their receded lateral portions together directly so their inner edges will lie in actual contact with each other without any other tissues remaining between them, and that actual union can occur approximately in the median line of the body, where alone they can act to advantage, both as a support against forces acting from above and to confine the volume and direction of the rectal cavity or of the fecal current to its normal limits. These chief objects here to be striven for will not be attained by a purely lateral and end-to-end reunion of the receded and more or less atrophic levator ani muscles unassisted by pelvic fascia, such as Dr. Harris proposes, however ideal it may otherwise appear at first sight. As a result of being torn or overdistended, these muscles have been partly thrown out of function and have become too much enfeebled in many cases to obliterate the deformities which have arisen in the pelvic floor during their inactivity, even if their remaining fibers are all reunited longitudinally. This alone will not enable them to abolish an ordinary rectocele, unless they, in common with the inner parts of the pelvic fascia, are also helped to retrieve the normal median approximation of their two lateral portions. Aside from these considerations I welcome Dr. Harris' otherwise theoretically correct proposition, for he really deals with the essential structures directly—which is not the case with the Lawson Tait, Hegar, Emmet, Aug. Martin and other methods. He works with the pelvis and beneath the vaginal wall, and in so far agrees with the principles stated by me before the Illinois State Medical Society in 1897, where I took the initiative in laying stress on laying bare the fundamental structures broadly by a temporary elevation or loosening of the posterior and lateral walls of the vagina, and on a direct approximation and union of the inner edges of these bearing structures near the median line, without the intervention or retention of any other tissues between them. To accomplish this I elevate the posterior and a part of the lateral walls of the vagina temporarily, to a distance of from 5 to 7 cm. inward from the former plane of the hymen. The receded inner edges of the pelvic fascia and the levator ani within them are then singled out with a finger tip and caught on the opposing sides alternately with a full curved needle armed with strong catgut. In this continued suture, which thus brings the bearing structures into actual contact, a small grasp of areolar tissue is taken often enough from the wound in front of the rectum to obliterate that cavity, and from beneath the vaginal flap to bring this rather redundant vaginal wall down in ruffles upon the newly-constructed rectovaginal septum. While I do not attempt to improve on the longitudinal continuity of the levator ani as Dr. Harris does, I am very well satisfied with my method which, during eight years and in nearly all of several hundred cases, has given me lasting, good results that I cherish more than purely theoretical beauties in any new method.

Dr. Henry P. Newman—I am thoroughly in accord with the statements of Dr. Harris. The separation of these muscles occurs where a deep lateral tear takes place. This space fills in with connective or scar tissue, the muscles retract, and more or less atrophy takes place. The operation that does not restore these to functional activity is consequently futile. It is simply a massing or bunching together of tissue that may for the time being close the vaginal orifice, but it is only a question of time when the rectocele, cystocele or prolapse again occurs. I would ask Dr. Harris whether he is able to outline these muscles in all instances? If so, that is certainly a point gained in dealing with this important muscular floor. Some of our prominent text-books and teachers refer to relaxed conditions of the pelvic floor. The large per cent. of these cases are dependent on subcutaneous or submucous lacerations, and should be dealt with as outlined in his paper. Lacerations in the median line are usually not so mischievous, and do not require such radical procedures, but even here the removal of the cicatricial area which unites the fibers in the median line should be dissected out and the muscular floor united in the same manner.

Dr. Franklin H. Martin—I wish to compliment Dr. Harris for bringing a paper of this description before the Society. I do not believe, however, that he is entirely right in underrating the part which the fascia layers occupy in supporting the floor of the pelvis. Without the muscles, the support would be inadequate, as it would also without the fascia. I also believe that the partition between the vulva and the anus, while not of a paramount supporting power, possesses value as a valve in preventing bacterial invasion of the genital tract.

I agree in regard to the part which the levator ani occupies in supporting not only the mouth of the vagina, but also the lower part of the rectum, and in operations such as described by the doctor—the separation of the posterior wall of the vagina from the anterior wall of the rectum in such a way that the levator ani, whether it be destroyed or weakened, can be exposed and retained—will frequently have the effect of bringing the whole floor of the pelvis forward.

The operation of Dr. Harris is unique in the fact that he is not content to expose the sides of the vagina and reach for these muscles with forceps and needles so as to bring them together en masse, but the originality lies in the fact that he searches through the pelvis everywhere, bringing individual fasciculi of muscles together and uniting them. This is a very difficult procedure.

The drawings presented are admirable, but I do not see that they add anything to the admirable work done by Howard Kelly and many other anatomists.

Dr. Frank Cary (by invitation)—I am positive that the work Dr. Harris has done can be done. The operations for repair of the perineum which I have seen have not in the majority of cases restored the previously existing condition in more than a slight degree. Where the perineal floor has been reformed by uniting the tissues with a butterfly operation, you look right into the vagina just as you did before the operation. As I do no gynecologic work whatever, I see it only in obstetric practice. When I have taken out the sutures, where operations were performed, I find that the amount of tissue involved in the suture is very slight, and the suture itself simply a small loop which could not more than pick up the mucous membrane, so it has been customary with me, for years, to take a pair of tooth forceps and reach down deep into the tear, carry through my suture, then grasp the other side, pull up the deep tissues and carry the suture through. When I take out the suture I find that I have a very large loop and the result is much better than with a small suture. I believe that by doing so I make it possible for these muscles to unite, for they certainly do retract, as stated by the Doctor, and the perineums which I have seen mended in that way were as they should be, and with the other method they were not.

I would like to say one thing more, to which some might take exception. After delivery, the perineum often seems to be without any tone whatever. In cases where I have found this lack, I believe that the muscles were torn, although there was no tear apparent. In these cases I have made it a practice to put in a deep silkworm gut suture, and it seems to me that this was beneficial.

Dr. Gustav Kolischer (by invitation)—I wish to corroborate the statement that the fascia is not sufficient to support the perineal floor. We often find women who have never borne a child, whose pelvic floor is completely relaxed, because they are suffering from atrophy of the perineal muscles, the fascia, however, not being injured. We often see a deviation of the normal vaginal angle, when a rectocele or cystocele has resulted. This may indicate that Harris' idea, that the muscles are necessary to keep up the tension, is the correct one. The merit of his work lies in that he called attention to the function of the different muscles and not only what muscles might be found. As to Dr. Kelly, he did not do anything to increase our knowledge of the pelvic floor, and I can not see how Harris' merit, by calling attention to the functions of the muscle, can be mixed up with Kelly's work, which consisted of only well-known facts.

Dr. C. S. Bacon—These submucous lacerations are important, not only to the gynecologist, but also to the obstetrician. In recent lacerations, restoring the continuity of the muscle by buried suture is not an entirely new procedure. In regard to the frequency of submucous or subvaginal lacerations, I would like to ask the reason for the statement that they are extremely common, and if so, what, if anything, should be done in recent cases. I would suggest that in old cases the scar in the mucous membrane may be so nearly obliterated or so much displaced that it may not be very evident, but that there was originally a tear through the mucous membrane can generally be demonstrated.

Dr. Reuben Peterson—I must confess that this paper has been a revelation to me. Together with other gynecologists, I have felt somewhat disappointed with the teachings and practical work on ruptures of the female perineum. Dr. Harris has taken hold of this subject in the proper way, by anatomic dissections, in order to ascertain what has been injured and how to restore the injured muscles to their original condition. It has been a revelation to me, because it has satisfactorily explained what I have felt in examining torn perineums, although I have never worked it out by dissections on the cadaver. Still, I would not be willing to confess that my operations for ruptured perineums have been failures. Before the operation I have felt the separation of the levator ani muscle, which he has demonstrated by his dissections, and after my operation I have felt that the continuity of the muscle had been restored, that I had restored the vagina to its proper axis and that my patients have been benefited anatomically and symptomatically.

I have used a modification of the Emmett operation, making a denudation up into the angles, removing the flap and taking deep sutures in order to reunite the muscles. Certainly it is a much more surgical proposition to lay bare torn muscles and reunite torn pigments, than to make them overlap by deep sutures. I am confident that the continuity of the levator ani muscles has been restored by the operation I employ for repairing a ruptured perineum. I would like to hear from our president as to the Emmett operation, as he has had unusual opportunities for studying it.

Dr. Arthur D. Bevan (by invitation)—In the drawings of this operation, which I have never seen performed, the author excises a piece of the levator ani muscle. Would it not be better, instead of excising this bit of muscle and scar tissue, to simply divide at this point and permit the two ends to overlap? Could he not make a better approximation by overlapping this tissue? In a few lacerations of the perineum I have separated the levator ani muscle and have obtained the most excellent results. The only difficulty has been in getting enough tissue to overlap. No matter how much we draw them together, the ends will come apart, and I have felt that if we could overlap the muscles, we would get a better union. Dr. Harris' paper marks a distinct advance in gynecologic work, and I am particularly pleased that this advance comes through the anatomic and surgical department.

Dr. Emil Ries—The gynecologists have not entirely overlooked this subject of the muscles. Freund, in Strasburg, taught us, eight or nine years ago, when I was his obstetric assistant, to look for the levator ani muscle in perineal laceration. I did not hear the Doctor say how he makes his diagnosis of the relaxation of the muscle and the interposition of the scar tissue. The operations which are usually performed for lacerated perineum have not been confined to the mucous membrane as much as might appear from the discussion. Hegar's operation is very successfully used for the purpose of uniting the ends of the levator ani muscle. If, in this operation, we dissect out a flap of vaginal mucosa, with the rectocele behind it, and cut away this redundant vaginal tissue, the rule is to put the stitches in very deep so that they are entirely buried. I believe that gynecologists of to-day are not content with simply passing a few stitches through the mucous membrane, but they use several layers of suture. I use at least three, obviating the objection of Dr. Carey of having only a little loop, containing but a bit of tissue. That is a good observation and one which ought to show us the necessity for taking deep sutures. We make the buried sutures and superimpose three or four layers of sutures, thus bringing together the sides of the wound, no matter how deep it is, and also the tissues by the side of the rectum. We do not fail to unite the muscle in front of the rectum. We do not shorten the muscle by excising a piece, but by bringing these two sides together, and instead of having two overstretched muscles, they are brought together in this way with the effect of shortening them.

In Freund's operation, which is not much different from Emmett's or Martin's, we do not go down into the deep layers so well, and as Dr. Harris says, we do not dissect out the muscles, which is a step in advance. Dr. Goldspohn was the first to lay stress on the union of muscles. Freund describes the lacerations of the levator ani muscle, and in some of the pictures of fresh lacerations of the pelvic floor he draws special attention to these cases, but I believe he has never dissected out the muscles himself.

Dr. A. Goldspohn—I would differ in regard to the Hegar operation. I have traced the levator ani muscle with my finger, several hundred times at least, and find that the Hegar denudation does not extend to it. If it is to be done with a flap, the flap must be wider in the vagina than at the vulva. We would have to dissect up on the sides where Dr. Harris does his work. Neither Hegar's nor any of these methods lays bare the territory where we find the receded levator ani and the fascia.

Dr. Ries—When you have the levator ani here, and you draw these two portions together, does the levator ani come with it, or does it remain outside with an empty space between?

Dr. Goldspohn—You bring the two portions nearer to each other, but not together.

Dr. Ries—My idea was to unite these lateral parts without grasping the levator ani. You can approximate the muscle because the tissue contiguous to it must come together.

Dr. Goldspohn—You thereby bring them nearer to each other, but not in actual contact, as is necessary for actual union. If we want actual union of these bearing structures beneath the vagina, the entire thickness of the vaginal wall must be lifted off and the muscles and fascia, like joists beneath a floor dealt with individually and directly.

Dr. T. J. Watkins—The Society is under obligation to Dr. Harris for his valuable and scientific contribution. In his paper he neglected to mention a class of cases of injury of the pelvic floor where a portion of the levator ani muscle is divided at or very near its insertion into the radius of the pelvis. These cases can not be treated by resection of the torn muscle; they can only be treated satisfactorily by suturing the severed portion of the muscle to the fascia of the anterior vaginal wall in the sulcus of the vagina. In resection of the torn muscle, it would seem, in many cases, that the muscle would not have sufficient consistency to allow the ends to be held together by sutures. Emmett, a long time ago, called attention to the injury of levator ani in relaxation of the posterior vaginal wall. He devised this operation because he learned that the principal injury in cases of relaxation was invariably in the lateral wall of the vagina. The Emmett operation must restore the injured muscle because it will properly relieve symptomatically at least, any case of relaxation of the pelvic outlet if it is properly done.

Dr. M. L. Harris—Dr. Goldspohn thinks we may not always be able to find the muscles. That possibly may be true, rarely, though thus far I have met with no such case, but have been able to find them without much difficulty by going deep enough into the pelvis through the lateral wall of the vagina. Dr. Martin does not think the fasciæ could furnish the support without the muscles, nor could the muscles without the fasciæ. As the latter are but the sheaths, and purely inactive parts of the muscles and as we never have a muscle without a sheath, Nature would have been very remiss had she attempted the anomaly of placing muscles here without sheaths or fasciæ.

The drawings were not introduced as works of art, in competition with Dr. Kelly's, but to illustrate points which are nowhere, to my knowledge, touched on by Dr. Kelly. My reason for stating that I thought the majority of muscle lacerations were subvaginal was the fact that I had found the lacerations most frequent opposite the lateral wall of the vagina. The vagina usually tears along the sulcus, but we may have lacerations of the muscles without the vagina being torn at all.

In reply to Dr. Bevan's query as to the advisability of overlapping the muscle, Hayem's experiments on dividing and reuniting muscles in the dog show that the function of the muscle is best restored when there is an intimate end-to-end union.

Dr. Ries called attention to the Hegar operation as uniting the levator ani muscle. With all due respect to Dr. Ries, I must beg to differ from him. The Hegar and Freund attempt to bring the levator ani in front of the rectum is an erroneous one. The levator ani does not pass between the rectum and vagina, and any attempt to bring it there is wrong, as it does not draw the real support of the pelvic floor forward where it should be. The real support lies behind the rectum.

In regard to a separation of the muscle from the symphysis, mentioned by Dr. Watkins, such a separation has been described. Were I to meet with such a case I would try to advance the end of the muscle attaching it to the urogenital fascia, if necessary, or shorten it up by resection, if the anterior end had taken a new firm attachment.

As to the method of diagnosing lacerations of the puborectalis, I would refer to the points brought out in the paper, such as loss of the perineal flexure of the vagina, recession of vagina and anus from the pubic arch, diminution of the depth of the perineal furrow, relaxed muscle as felt by the finger, diminished contractile power, etc.

EXTIRPATION OF THE UTERUS, ITS APPENDAGES, TUMORS, ETC., WITHOUT LIGATURES OR RETENTION CLAMPS.

DEMONSTRATIONS OF NEW INSTRUMENT FOR HEMOSTASIS WITH REPORT OF CLINICAL CASES.*

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The prime object of the angiotribe here represented is to produce absolute hemostasis and do away with ligatures or foreign bodies in the operative field. The medical profession has been struggling with this problem for a long time. It is apparent to all that the ligature is not ideal or even desirable, constituting as it does a foreign body always in the nature of a complication in surgical wounds. The écraseur was one of the early manifestations of an epoch to do away with the time-honored ligature. In a modified form it seems to possess some merit. The clamp and cautery has held its place in rectal surgery for a considerable period and, in spite of some advantages claimed for the ligature in hemorrhoidal operations it is probable that the cautery is still used as often as the ligature method. Notwithstanding that it is now giving way to better devices, the retention clamp, likewise, has been a life-saving substitute for the ligature, and has been a means of revolutionizing pelvic surgery. The many devices for perfecting the absorbable suture and ligature, both in material used and manner of preparing, only go to show that the profession is fully alive to the importance of doing away with the conventional ligature and suture. The Keith-Skene electric heat and the Doyen crusher are among the later methods that bid fair to solve the long sought problem.

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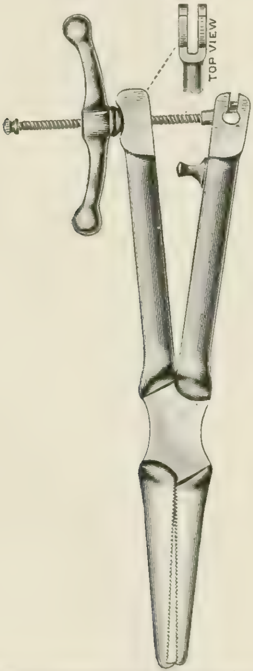

Fig. 1.—Showing the instrument with the original cross bar and screw attachment in place.

It must not be understood that the leaving of foreign bodies in the wound is the only objection to the ligature, while it must be conceded that it is an all-important argument against its use. Other vital objections still remain: 1. Uncertainty as to slipping. 2. Uncertainty as to asepsis. 3. Shrinkage in the stump, thereby loosening the constricted vessels. 4. Bunching together tissue, and thereby dragging upon and displacing neighboring structures. 5. Leaving foreign bodies in the wound.

The author recognizes that in the individual ligation of vessels some of the above objections would not apply; but this very desirable method of using the ligature is not always possible or at times advisable. Again, the overtowering advantages of its substitutes—here particular reference is made to the Keith-Skene and Doyen methods—apparently leave little room for argument: 1. Immediate and absolute hemostasis. 2. Perfect asepsis. 3. An undisturbed stump, for example, no bunching of pedicle or dragging upon neighboring structures. 4. The operative field free from foreign bodies, and 5, with the improved instruments recently constructed by the author, promptness of execution and adaptability to nearly all tissues and surgical work.

The general outlines of the instrument can be seen by the accompanying cuts. (Figs. 1, 2, 3.) The length of each blade is 34 cm., of which 18 are for the handles, 6 for the lock, and 10 for the blades or jaws of the instrument. The jaws taper slightly from 1.25 cm. in width and thickness to 1 cm. in width and .5 cm. in thickness. The bite of the jaws is serrated with a deep groove running through its center, .25 cm. in width the lock is 6 cm. in length, 4 in breadth, and 1.75 i thickness, the handles are 1.6 cm. in width and the sam in thickness; at their ends are slots for receiving th cross-bar and screw, or the lever appliance. A small pi placed between the handles near the end serves to pr vent too great pressure on the handles and the cons quent danger of breaking.

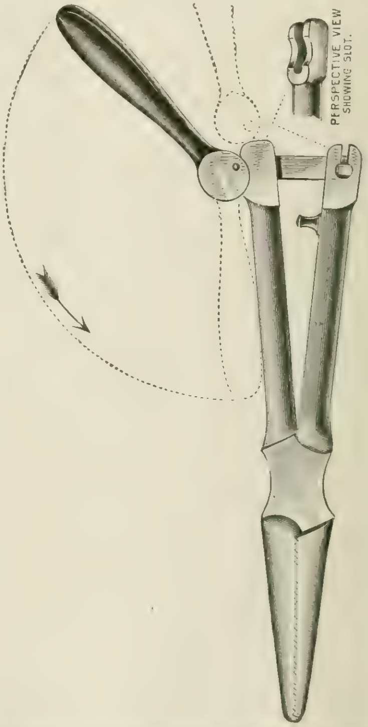

Fig. 2.—Showing the instrument with adjustable lever attachment.

The author's modification differs from the Thumi instrument in having longer blades, enabling one to ir clude the entire broad ligament or large pedicle at a sir gle application. The blades are narrower, so that les space is required in their adaptation to the part, and the can grasp shorter pedicles, or even sessile growths wit greater facility. At the end of one of the blades is slightly projecting bite preventing the grasped tissu from extending beyond the blades, as it is apt to do in closing the Thumin instrument.

The lock is separable (Fig. 3) not only rendering it a more aseptic instrument, but allowing the individual introduction of its blades when desired. A new or modified Thumin lever has been added to the instrument as a special attachment. A combination mortise lock allows of an interchange at will of the lever in applying the compressive force to that of the cross-bar and screw.

While the cross-bar and screw will be found most desirable for general use, the lever has great power of compression and can be applied with a single motion or movement of the hand. This new or modified lever (Fig. 2) not only has the interchangeable lock in common with that of the cross-bar and screw referred to above, but is simple in construction and adaption, and allows of a much wider separation of the blades during their application. The Thumin lever requires a partial closure of the blades and, necessarily their previous application to the pedicle or tissue to be clamped before adjusting the lock. This obstacle is overcome by the modification, as will be seen by the accompanying cuts. (Figs. 1 and 2.) The instrument, unlike the Bissell or modified Tuffier instrument used at the Woman's Hospital, New York, only requires an application of a minute or two, while the former requires three to five minutes. The instrument is applied to the broad ligaments or any soft tissue to be excised in the same manner as the ordinary broad ligament clamp, using the screw and cross-bar or the lever as the compressive force. Immediately on its application the broad ligament is cut away on the uterine side and close to the clamp, and at the end of a minute it is removed by releasing the screw or lever. It is then applied on the opposite side in precisely the same manner. The uterus is now cut away, the toilet of the peritoneum accomplished and the operation completed. With two instruments at hand, both broad ligaments may be clamped and the uterus at once removed. In amputation of the uterus at its neck, the abdominal operation is accomplished in the usual manner, using the clamp in place of the ligature for the broad ligaments on either side. The flaps are made from behind and in front of the uterus in the usual manner, and subsequently united over the stump with a running catgut suture. I propose substituting a clamp for this part of the operation as well, preferring the thin ribbon-like stump in cementing the flaps together to the union by running ligature. A flat right-angled clamp, as has been suggested by Thumin, for the vaginal arteries, will, I believe, accomplish this. In ovariotomy or salpingo-oöphorectomy the operation is very simple, clamping and removing; where there is no pus I use no drainage; where there is a septic condition, I have employed either the cautery on the raw amputated edge of the stump—which is insignificant—or strong carbolic acid. The translucent edge of the compressed tissue is at first quite blanched, but in time—as seen upon dogs—the hyperemic edge at the attached portion gradually extends its reddened area more and more, so that the entire stump is ultimately resuscitated, and little or no sloughing occurs, as obtains in a large, compressed and bunched tissue when the conventional ligature is used.

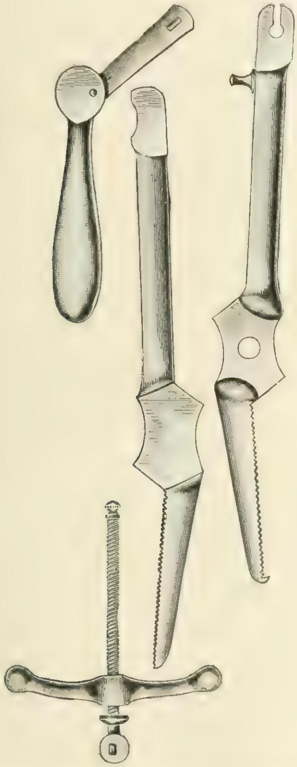
Fig. 3.—Showing the instrument with handles taken apart and its attachments separated.

There being no granulating surfaces left, the adhesions so much to be dreaded by the ordinary method do not occur. There being no ligatures left behind, one is relieved of the apprehension of any complications from this source.

Case 1.—Mrs. D., aged 62, German, housewife; history of previous illness negative; family history good, except that mother died of tuberculosis. She menstruated first at 15; regular until the age of 53, when menses ceased abruptly; no history of irregularity, excessive flow or pain; married at the age of 20; husband living; nine children, whose ages range from 40 to 20. Seven years ago she began to have pain in the back, at intervals; no other symptoms until one year ago, in January, when she began to have discharge and hemorrhage; hemorrhage irregular, at times a show of blood, then absent, then a flow for a considerable time—two, three, four or five weeks. During the past year the patient has become anemic, and has lost not a little flesh and strength. Examination revealed a tumor—enlarged uterus—in the pelvis, extending two and a half inches above the pubic bone, hard and nodular.

Diagnosis—Carcinoma of the uterus, and probable long-standing multiple fibroids.

Operation, Jan. 20, 1899: hysterectomy; the vaginal route was chosen, although the vagina was somewhat small and the uterus thrice its normal size. The outlet was enlarged by bilateral incisions. Incisions were made anterior and posterior to the cervix, into the peritoneal cavity, and the left uterine artery severed and tied. An effort was made to pull the uterus down, but this was found impossible on account of the size, friability and adhesions. The abdomen was opened and the uterus freed; the clamp or crusher placed on the broad ligament from above downward, compressed, and left for two and a half minutes.

The ligament was cut on the uterine side of the clamp; clamp loosened; no oozing; clamp placed on the opposite ligament, and this similarly dealt with. The uterus, now free, was lifted out and the abdomen closed; gauze drainage through the vagina; recovery complete; no after hemorrhage; only slight serosanguineous oozing from the vagina; patient up in four weeks, and left the hospital in six weeks.

Case 2.—Mrs. E., age 20 years; American; family history good: menstruated first at the age of 13: never regular: backache and pain over the right ovarian region, which is increased at the menstrual period; married one and a half years: menses have been more painful and backache and pain in the right ovarian region more severe since marriage.

Examination showed the uterus to be infantile, cervix small, elongated and eroded; ovaries large and prolapsed, and this enlargement and prolapse more marked in the right side.

Operation, Jan. 21, 1899: currettement; tracheloplasty; celiotomy; right ovary found low in the cul-de-sac, 'twice the normal size, with cystic degeneration, tube closed, enlarged and thickened; adhesions broken up and ovary and tube removed by means of the crusher or clamp. Left ovary slightly enlarged and cystic; tube closed, and many small cysts around the extremity. A section of cystic ovary was removed, the tube opened, and ampulla everted and held by fine catgut; cysts tied off with catgut; recovery good; no evidences of hemorrhage from ovarian stump. The patient was getting up in two weeks and left the hospital at the end of the third week.

CASE 3.—Mrs. F., aged 24, English. Previous history: patient well, except a monthly hemorrhage from the nose, each time lasting about twenty-four hours. This phenomenon first appeared when the patient was 6 years of age, and lasted until she was 12; mother died at childbirth. Her menses first appeared in the thirteenth year of the patient's life, and continued regularly and without pain until the first pregnancy; since birth of first child they have been painful; married at the age of 15 years; one child, 8 years old; twins, born six and a half years ago, lived six weeks; husband died in 1894; patient had a laceration of the cervix and probable infection with the first child. She has not been well since. Her symptoms increased after giving birth to twins; had double salpingo-oöphorectomy and trachelorrhaphy four years ago; since then pains in the abdomen have increased rather than diminished; bowels have been constipated and bladder irritable.

Examination showed the uterus to be large and tender, and especially tender at the horns of the uterus in the old stumps, consequently a diagnosis of metritis and interstitial salpingitis of the remaining portions of the tube was made.

Operation, Jan. 26, 1899: vaginal hysterectomy. The usual incision was made around the cervix, and the uterus freed anteriorly and posteriorly. The fundus was then turned forward and pulled downward through the anterior incision. The clamp or crusher was placed on the broad ligament from above downward and left the usual length of time; then the opposite ligament was treated in the same manner, which completed the operation; recovery; relief of pain has been very marked. No hemorrhage followed operation. Suppuration was found in both horns of the uterus. The patient was sitting up in ten days, and left the hospital at the end of three weeks.

CASE 4.—Mrs. S., aged 29, German-American. History: Cloakfitter for eight years: on her feet many hours each day; large and well developed; family history good; first menstruated at the age of 14 years, and was regular until about two years ago. She suffered considerably during the first three years of menstrual life, then the symptoms became less severe until about seven years ago, since which time they have been growing worse. She has always had severe pain over the lower half of the abdomen during the menstrual period, but during the last year this pain has been constant. She also complained of severe pain in the chest over the cardiac region, without apparent local cause.

Examination revealed stenosis of the os uteri, a large uterus, movable mass to the right and above the uterus. The mass on the right side of the uterus had undoubtedly been taken from a floating kidney, as that diagnosis had been made by Chicago physicians.

Operation: currettement; tracheloplasty; celiotomy; left ovary found to be the size of a large hen's egg, cystic, and the capsule much thickened, as seen in a specimen; tube and ovarian ligament were much thickened and elongated, allowing of considerable movement; ovary removed by means of crusher, leaving tube. The right ovary was found to be the size of a hen's egg, cystic and degenerated, but to a less degree than the left; cyst of broad ligament the size of a turkey's egg, situated above the ovary in such a way that the two gave the characteristic kidney shape: cyst removed and also section of this ovary; recovery complete; no evidence of hemorrhage. The patient was sitting up in three weeks, and left the hospital at the end of four weeks.

CASE 5.—Mrs. H., aged 30, American. Previous history: Well until a year ago last Thanksgiving; family history good; menstruated first at the age of 15; menses regular and painless until one year ago last November; married at the age of 21, only child 8 years of age; well after birth of child. Friday morning, after Thanksgiving of 1897, she began to have headache and pains in the back. Friday night she began to vomit. Saturday morning she had pain in the right inguinal region. The pain and vomiting ceased in a few days, but she did not leave her bed until the following March; pain and vomiting with each menstrual period since November, 1897.

Examination revealed laceration of perineum, laceration of cervix, large prolapsed ovary on the left side; prolapsed ovary on the right side; hard body the size of a hickorynut in the region of the appendix.

Operation, Jan. 26, 1899; currettement; tracheloplasty; perineorrhaphy; celiotomy, appendectomy—the appendix having been doubled on itself and adherent in such a way as to form the hard body in this region; section of right ovary removed, and on the left side salpingo-oöphorectomy done with the crusher or clamp; no evidence of hemorrhage; patient made a complete recovery; was sitting up on the eighteenth, and left the hospital on the twenty-seventh day after operation.

CASE 6.—Mrs. J., aged 53; Norwegian; housewife; previous history negative; family history good; menstruated first at the age of 14 years, always regular until the last year of menstrual life; ceased to menstruate at the age of 48, five years ago; married at 21; has had seven children. The abdomen began to enlarge one year ago; patient had a feeling of pressure in the left ovarian region; bowels constipated. Four or five months ago she began to notice a tumor on the left side. Examination revealed a cystic tumor of the size of the uterus at seven months of pregnancy.

Operation, Feb. 13, 1899: removal of the tumor by means of the clamp or crusher for the pedicle; abdomen closed without drainage; recovery uninterrupted; no evidence of hemorrhage; sitting up on the eighteenth, and left the hospital on the twenty-seventh day after operation.

CASE 7.—Miss T., aged 47, Swedish: dressmaker; family history good; previous personal history negative; menstruated first at the age of 15; has been regular until last year, when it became excessive and more frequent; patient is anemic and has lost flesh; has noticed enlargement of the lower abdomen, of irregular shape, approaching near the umbilicus.

Examination showed the depth of the uterine canal to be six inches; irregular nodular tumor extending laterally into both broad ligaments and up into the umbilicus; movable, and to all appearance no adhesions or involvement of the adnexa; patient has heart murmur—regurgitant, mitral.

Operation, March 13, 1899: hysterectomy; median abdominal incision from one inch above pubis to umbilicus; tumor lifted out of pelvis; clamp applied to the entire length of left broad ligament. The uterus was now cut away from this side, and on removal of the clamp, was in two minutes ap- twins; had double sálpingo-oöphorectomy and trachelor- plied to the opposite side; uterus cut away with the usual anterior and posterior peritoneal flaps. At one point there was slight bleeding, owing to imperfect closure of the instrument. A catgut ligature was applied, with no further trouble. The peritoneal wound was then rapidly whipped together by continuous catgut sutures, leaving no exposures of the raw surface, or the slightest oozing of blood. The abdomen was closed without drainage. The patient's condition had been precarious from the beginning of the anesthesia, owing to the defective heart. Notwithstanding the use of restoratives, saline, strychnia, etc., she did not rally, and died on the second morning, from shock and the effects of the heart lesion.

CASE 8.—Mrs. S., aged 48, American; housewife; menstruation began at 14 years of age; regular until the birth of her last child, fourteen years ago; since then very irregular, varying from two to six weeks; four children youngest 18 years old; last labor severe and instrumental patient suffering considerable trauma.

Examination revealed lacerated perineum, lacerated cervix endometritis, retroflexion with extensive adhesions.

Operation, March 23, 1899, by Dr. C. W Barrett hous physician Marion Sims Sanitarium; currettement, tracheloplasty, perineorrhaphy, removal of hemorrhoids, celiotom breaking up of adhesions and double salpingo-oöphorectomy abdominal fixation of uterus; abdominal wound close without drainage; no symptoms of hemorrhage; complete an prompt recovery; was sitting up the twenty-fourth and lef the hospital on the twenty-eighth day after the operation.

CASE 9.—Mrs. W., 36 years old, German; housewife; fan ily history good; has had three children, the youngest years old; irregular menstruation, menorrhagia or metro rhagia, with laterally a bad-smelling leucorrheal discharge; backache and constant pain over the left inguinal—ovarian—region. Diagnosis: carcinoma of the uterus.

Operation, April 5, 1899: vaginal hysterectomy, by Drs. V. Pleth and C. W. Barrett; angiotribe applied for two and a half minutes, on the right broad ligament, after the usual circular incision and separation of bladder and rectum; re-applied on the opposite broad ligament; uterus cut away, including right ovary and tube; left ovary left *in situ* to prevent storm of the menopause; gauze packing in vaginal vault. The patient made an uninterrupted recovery, the highest temperature after the operation being 100; highest pulse, 90; absolutely no pain or bleeding following the operation. She was sitting up in two weeks, and about in the third week.

Case 10.—Mrs. H., aged 40; American; first menstruated at the age of 15; always regular but scanty; married fifteen years; never pregnant; had severe attack of leucorrhea twelve years ago—suspected gonorrhea; was somewhat relieved by treatment, but always had a feeling of weakness, and inability to be on her feet for any length of time.

Examination revealed cystic degeneration of the cervix; endometritis, subinvolution, retrodisplacement, with extensive adhesions, pyosalpinx.

Operation, April 6, 1899, at my private hospital; curettement, tracheloplasty, celiotomy, extensive adhesions torn up, double salpingo-oöphorectomy, drainage through vagina; no evidence of hemorrhage; almost immediate relief of symptoms; was up on the twenty-third and left the hospital on the twenty-seventh day after the operation.

Case 11.—Miss M., aged 43, German; menses first appeared at 14; always regular. Three years ago she gave birth to a seven months' child; septic labor; since birth of child, pain at menstrual period, severe for one week before the flow, continuing and becoming worse until it is now constant.

Examination revealed laceration of the perineum, laceration of the cervix, endometritis, retrodisplacement, and inflammatory thickening of both broad ligaments, with extensive adhesions.

Operation, April 13, 1899: curettement, tracheloplasty, perineorrhaphy, celiotomy, adhesions broken up, right salpingo-oöphorectomy with clamp; cyst removed from left ovary; suspensio-uteri operation; closure of the abdomen with silkworm gut suture, without drainage; no evidence of hemorrhage; entirely smooth recovery; got up on the twenty-second and left the hospital on the twenty-sixth day after operation.

Case 12.—Miss F., age 28, American; teacher; family history negative; first menstruated at the age of 15; pain first two days. One and a half years ago she had a fall, and has not been well since.

Operation, April 15, 1899: left salpingo-oöphorectomy by means of the clamp; cyst removed from right ovary; suspensio-uteri operation; abdomen closed without drainage; no hemorrhage; perfectly smooth recovery; sitting up on the eighteenth day; left hospital at end of third week.

Case 13.—Mrs. R., aged 33, German; housewife; married sixteen years; five children; two miscarriages at four and a half and eight months; first menstruated at 12 years of age; last pregnancy three and a half years ago; difficult labor; not well since; backache, dragging feeling, pain over ovaries and intestinal disturbance, vomiting, constipation. Examination disclosed laceration of the perineum and cervix with large protruding hemorrhoids.

Operation, April 24, 1899, at my private hospital: curettement, tracheloplasty, perineorrhaphy and removal of hemorrhoids by means of the angiotribe and cauterization; prompt recovery; no bleeding, and but a minimum irritation from hemorrhoidal operation; up on the sixteenth day; patient is about to leave the hospital.

Case 14.—Mrs. K., aged 37, American; housewife; widow; first menstruated at 13; always regular; no pains; two children, 16 and 17; one miscarriage; began to have irregular menses four or five years ago, and latterly has become very profuse; menorrhagia and metrorrhagia. Examination shows large irregular tumor extending to the left and as high as the umbilicus; patient anemic.

Operation, May 7, 1899, at my private hospital: abdominal hysterectomy, with clamp; patient has to date made uninterrupted recovery; no bleeding; no rise of temperature, nor increased heart action.

Case 15.—Mrs. N., aged 43; German; housewife; family history good; two children; normal delivery; inflammation of the bowels eight years ago; first menstruated at 15 years of age; regular; always with some pain; last ten or twelve months has had increased pain in pelvis, and more flow, with greater frequency. A mass can readily be palpated over the right iliac and lumbar region, connected with the uterus, nodular in outline. Diagnosis: Multiple fibroids of the uterus.

Operation, April 25, 1899, in the amphitheater of the Chicago Policlinic: combined vaginal and abdominal hysterectomy with the angiotribe. The Thurin instrument was used here—my own being out of order—and in its double application on each broad ligament the uterine artery was not engaged on one side, necessitating the use of a retention clamp; patient sitting up on the sixteenth day, and will soon leave the hospital; no bleeding or adverse symptoms whatever.

Case 16.—Mrs. H., aged 54, American; housewife; father died of pulmonary tuberculosis; mother in good health, aged 75; brother 57, good health; all the diseases of childhood; a severe attack of typhoid fever at 12; never strong; two attacks of inflammation of the bowels, twenty and twenty-five years ago; first menstruated at 17; irregular; every two to four weeks; painful; excessive flow, lasting five to six days; leucorrhea, from early menstrual life; married at 21; six children; normal deliveries; one child is tubercular. Present condition: Menopause two years ago; leucorrheal discharge has become worse; with bad odor of late; pains in the inguinal regions and back, increasing in severity and more continuous; anemic. Diagnosis: Uterine carcinoma.

Operation, May 5, 1899, amphitheater of the Chicago Policlinic: combined vaginal hysterectomy by means of the angiotribe; nothing unusual in the application except the vessels of the broad ligament were large and a pulsating uterine artery led me to apply a retention clamp on one side, and radical operation for hemorrhoids (clamp and cautery). As my own clamp had been used and soiled, I did the operation on the hemorrhoids by means of the Kelley clamp. Three hours after the operation I was called to the Hospital, as the patient had severe flooding. On examination I found that the bleeding was from the hemorrhoidal vessels. Clamps were applied, and no further bleeding took place. Since then she has had an uninterrupted recovery. The gauze has been removed from the vagina, and there is no evidence whatever of bleeding from the broad ligaments, or hysterectomy wound, and she is feeling well.

LA GRIPPE.*

BY J. E. GILCREEST, M.D.
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Influenza, la grippe or epidemic catarrhal fever may be defined as a specific epidemic and contagious disease, caused by a specific bacillus. This disease spreads rapidly over wide districts of country, causing marked febrile symptoms, is often attended by serious complications and causes great and prolonged prostration of strength.

Various epidemics of influenza are on record, Parks tracing it back to the ninth century. The first epidemic in England was reported in 1510, and in the United States in 1647 and at various periods down to the present times. The epidemic described in 1847, in England, was very much like we now find it in America. It has been more prevalent since 1890 than during any previous decade, having spread nearly all over the country in 1890, in April and May, 1891, and in the winter of 1891-92. Only a few cases were reported during the winters of 1892 and 1893. In the early part of 1895 it prevailed epidemically, and again in 1897 and the fall of 1898; and up to this time, April 20, 1899, it is very prevalent in many portions of the country.

Etiology.—At the present time it is generally agreed by medical teachers and writers, that la grippe is a contagious, infectious disease caused by the specific bacillus discovered in the pus-cells of the tracheal mucus, by Pfeiffer, in 1892, and in the blood by Canon, the same year. The toxins developed by these micro-organisms are responsible for many of the important sequelæ that accompany or follow a large number of attacks.

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The Pfeiffer bacillus is very small, non-motile, and stains well with methylene blue or Ziehl's carbol-fuchsin. When stained, it may be observed as a small dumb-bell, having knobbed ends connected by a rod-like shaft. This bacillus can be cultivated in agar and other media, but not in gelatin, and, when inoculated into rabbits and other animals, it causes more or less typical influenza.

Dr. Dawson Williams of London says the history of the epidemic of 1889-90 strangely supports the view that influenza is propagated mainly, if not entirely, by human intercourse. He gives many illustrations in proof of this statement. He says persons living in the suburbs, going daily to business in the towns, had generally been the first to suffer, other members of the household who remained out of town being attacked later.

J. Dreschfeld emphasizes the fact that inmates of insane asylums are less liable to be affected with la gripppe than the inmates of other large institutions, such as barracks, etc. Kern gives statistics of the district prison at Freiburg, with 406 prisoners, 35 per cent. of whom were stricken; of those in solitary confinement, 30 per cent.; of those in common wards, 50 per cent.; of those in communication with the outside world, 70 per cent. The restriction of the outbreak to different corridors shows, in his opinion, that it was not due to a miasmatic influence.

While we believe the Pfeiffer bacillus is the cause of this disease, the modes of conveyance have not yet been satisfactorily established. When we take for granted that it is an air-borne disease, it does not account for the rapid and simultaneous spread over a large country, sometimes traveling where the wind is continually blowing in an opposite direction. Pepper suggested that the micro-organism may be almost universally distributed, but only capable of causing occcasional and sporadic cases under ordinary circumstances, and that under certain extraordinary atmospheric or telluric conditions it acquires a degree of virulence that renders all subject to its attack. The fact that an epidemic spreads along commercial routes, its rapid dissemination, and the absence of any constant antecedent meteorologic condition, militates against the view that it is a miasmatic or air-borne disease.

Pathology.—The morbid changes found after death are of a varied character, and are, in the main, caused by the complication by which death was brought about. Those due to la grippe itself are of a character common to all forms of acute infective diseases, namely, parenchymatous degeneration of the liver and of the muscular substance of the heart and minute blood-vessels. The last named may lead to capillary hemorrhages into the viscera or nervous centers.

In some cases inflammation has extended into the frontal sinuses, the maxillary antrum and the middle ear, and, in more cases, there are evidences of pneumonia. But all these are regarded rather as complications than as essential features of the general disease. Numerous bacteriologic examinations have shown that in pneumonia, complicating la grippe, the diplococcus of pneumonia is present in some cases, the streptococcus pyogenes in others.

These two microbes have also been found in the bronchial sputum, while in the secretions of the nasal cavities the staphylococcus aureus and albus and the capsule bacillus of Friedlander, as well as two species of bacilli capable of producing pneumonia in rodents have been detected. These micro-organisms enumerated are due to complications and not to la grippe.

The febrile symptoms apppear to result from the direct action of the bacillus, or its ptomains, on the corpuscular elements of the blood and of the cerebral nerve-centers, creating great pain and soreness, with marked depression and impairment of vital resistance.

This view is sustained by A. Cantani, Jr., who injected cultures of the influenza bacillus into the brain of rabbits, by which severe nervous symptoms were produced, and from which he inferred the bacillus to be an intracellular poison acting primarily on the central system. The effects of intercranial inoculations of influenza bacillus in rabbits were also studied by Cantani. Virulent cultures were introduced into the brain of rabbits by trephining. Severe nervous symptoms, high temperature, and death followed in about twenty-four hours. At the autopsy, about the site of the wound was edema containing numerous Pfeiffer bacilli and hemorrhagic exudation. The brain was markedly hyperemic, the ventricles often containing a purulent exudation in which numerous la grippe bacilli were found; the substance of the brain, on section, showed many small hemorrhages and numerous bacilli, with polynuclear leucocytes. The bacilli appeared to spread, especially by the lymph-channels. The spinal cord was also invaded to a slight extent, the bacilli passing by way of the central canal. The processes were generally those of myelitis, similar to the encephalitis of the brain, but not nearly so severe. The other lesions present were bloody, serous exudate in the peritoneal cavity, acute congestion of the spleen, hyperemia of the kidney, small hemorrhages into the suprarenal bodies, and incipient fatty degeneration of the liver. The lungs were injected. This proves that the toxins are really the actively hurtful agents.

P. C. Knapp considers that the nervous and mental consequences of la grippe, in the majority of cases, are poisoning by some ptomain, produced by the bacteria of the disease.

In five post-mortem examinations of influenza, clinically characterized by symptoms simulating those of cerebrospinal meningitis, Pfuhl found congestion of brain, cord, and membranes, meningeal exudation, flattening of the capillaries, with hemorrhagic extravasations, and, in one of these cases, a collection of pus in the cerebellum. In all of these cases bacteriologic examinations disclosed, in the blood-vessels and lymphatics, the presence of the bacilli described by Pfeiffer as characteristics of la grippe. In some situations the bacilli had formed thrombi; they were also found in the liver, spleen and kidneys. They were commonly associated with the bacilli of decomposition and two different forms of diplococci.

Diagnosis.—The diagnosis of la grippe, except in ill-defined or sporadic cases, rarely presents serious difficulty. In obscure cases we should have bacteriologic examinations made if possible. Coronado advises to draw a drop of blood from the finger into a tube, plug with cotton, lay aside twenty-four hours, and it will then show a culture of diplo- and strepto-bacilli, characteristic of la grippe, extremely motile, and easily visible with a 600-diameter microscope.

Most writers and teachers recognize three distinct forms of la grippe: 1, simple without complications; 2, where it is complicated with serious pulmonary affections, especially bronchitis and pneumonia; 3, when the digestive organs and nervous system become involved.

Ordinary catarrhal affections are sometimes hard to discriminate from sporadic cases of la grippe. The former are usually attributed to sudden and great vicissitudes of temperature or exposure to strong drafts of air, while the latter come on independently of seasons of the year and of such agencies.

La grippe is usually accompanied with nervous symptoms and debility out of all proportion to the other manifestations of the disease.

We have had in our city, during January, February, March and April, 1899, cases presenting nearly every variety. The mild catarrhal form is that in which many patients only complain of cold in the head, general malaise, soreness and often aching of the entire body, and especially of the back, neck and head, with slight febrile symptoms which usually pass off in from two to five days, but often leaving a feeling of general prostration. In the second form all the symptoms of the first are intensified. Severe throat, bronchial and lung trouble may supervene from the onset of the disease. There is often severe pains and soreness in the limbs, weakness of certain groups of muscles resembling acute rheumatism. Ocular lesions are manifold, especially of the optic nerve, retina and conjunctiva.

Ear complications during the present epidemic have been numerous, often very painful, causing sleepless nights and suppuration, but as a rule ending in a complete recovery in a comparatively short time.

The lung complications have been of a varied and interesting type. The pneumonia, complicating la grippe, differs from the typical disease. It rarely sets in with a decided rigor, and the inflammatory symptoms, notably the pain in the side, are but little marked. The local processes are not characteristic. Local signs come on slowly. Crepitation can be heard over a considerable area, and usually disappears rapidly, not often reaching the process of hepatization with definite dulness. The typical rusty sputum is wanting, but we have, instead, a free, frothy, bright, bloody secretion, which is often abundant and lasting till after the febrile symptoms have subsided. Pleurisy is often associated with la grippe pneumonia. Empyema, gangrene, and abscess of the lungs may arise as complications. The genitourinary tract may be invaded and even acute nephritis may appear as a complication. Cardiac complications sometimes arise and cause alarming symptoms. Gastrointestinal complications are not so frequent, but very important, as they often bring about a very serious condition. It is believed by many observers, both in this country and Europe, that the bacilli pass from the throat and nose into the stomach, and thence invade the whole intestinal tract, causing various forms of gastro-intestinal trouble.

M. Faisan of France said, in a paper he read before a medical society, March 29, 1899, that he had observed a large increase in the number of cases of appendicitis during the epidemic of la grippe. The same observation has been made by several writers in this country. A few cases of appendicitis following la grippe have come under my observation. Dr. J. B. Stinson wrote me a short time ago that he had had an attack which caused an acute appendicitis, necessitating an operation; but he still lives to demonstrate the value of scientific surgery.

I will give a brief report of two typical cases of the severe nervous type, which will illustrate that form of the disease.

Case 1.—T. B., aged 3 years, was taken Feb. 6, 1899, with fever and the usual severe symptoms of la grippe. He complained of aching all over, severe pain in head, back and right side, with marked hyperesthesia of the whole body. Nausea and vomiting, with high temperature, continued for thirty-six hours. The fever had run from 103 to 105 during this time. The cough was troublesome and tight. Slight dulness with some crepitation could be detected posteriorly over the lower part of the right lung.

At the end of the first thirty-six hours the fever subsided some, but more or less delirium with prostration continued. The lung symptoms subsided in about ten days, but catarrh of the nose and throat continued troublesome. He would frequently complain of pain in his head, and would toss it from side to side. His fever vacillated from 101 to 105, for seven weeks, with nervous symptoms all the time, and weak, rapid heart action. He would frequently cry out with pain in an arm or leg. About the fourth week he had marked paresis of the laryngeal and pharyngeal muscles. He could only be understood with difficulty, and, in forcing him to take nourishment and medicines, he would often strangle. He emaciated until he looked as though the skin was adhering to his bones. During the whole time, he required anodynes to produce rest. About the end of the seventh week, the fever and nervous symptoms began to subside; feeding became less troublesome and all symptoms very slowly improved. It is now about ten weeks since he was stricken, and he is still unable to sit up, but he has a good appetite, rests well, the bowels move naturally, and every indication now points to a complete recovery.

Case 2.—J. A. H., aged 18 years, came to me the afternoon of March 19, 1899, complaining of aching all over, especially the head and back. His temperature was 101, pulse 100, tongue slightly coated, and bowels constipated.

I prescribed a purgative of calomel and soda to move the bowels, acetanilid in five-grain doses, to subdue pain and fever, and quinin with Dover's powders to take after the bowels moved.

He went to his room, and gradually grew worse, and during the night sent for Dr. Garrett, my assistant, who administered an anodyne and ordered cold applications to the head. His temperature was 105; he was very restless and suffering from nausea and vomiting, which continued with but little rest for forty-eight hours. The second afternoon he complained considerably of pain in his back, head and limbs, and became delirious and extremely restless. He was very weak, temperature 102, pulse about 60. The organs of respiration were only slightly affected.

We thought for a while that we were going to have a case of cerebrospinal meningitis, but the third day his symptoms grew some better; however, he continued very nervous and restless, complaining, when awake, of his head or pains in his body. I used morphia hypodermically to produce rest, and strychnia and digitalin to sustain the heart's action.

On the fifth day he suffered intensely with pain along the sciatic nerve, which continued unless under the influence of morphia. His temperature gradually went to normal, but his pulse, when pain was severe, would go down to 48, with small volume and very soft. In this condition he was more or less delirious, and had cold extremities. The hypodermics would relieve and cause him to rally.

By the end of the second week he had improved considerably, the pain in his head, back and limbs had subsided, but the prostration was great. For three or four days during the third week, he suffered considerably with pain in his left ear, which continued slightly all the time and it would be so severe at times that hypodermics of morphia were necessary; stomach would also become nauseated from the pain, which prevented using it internally.

There was no perforation of the drum nor discharge from the external ear. During the fourth week all symptoms subsided, but convalescence was slow.

The nervous symptoms in these cases were so well marked that I hope they will be of some interest to this Association.

Treatment.—In this we have no specific, and each case should be studied and treated symptomatically. To allay the pains and soreness and restore free elimination from the skin, kidneys and intestines, are the indications which should guide us in our therapeutic applications.

In the beginning, I clear out the bowels with calomel and soda bicarbonate, say 1 to 2 or 3 grs. of each every hour as indicated, until sufficient has been taken to act. Acetanilid or phenacetin, alone or combined with Dover's powder, 2 to 5 grs. of the former and 1 to 3 grs. of the latter every three hours until slightly cinchonized, and repeated for two or three mornings, does good. If the muscular soreness and pain is very pronounced, I give sodium salicylate in 10-gr. doses every two to four hours until relieved.

For the bronchial irritation, I often prescribe:

	Syr. acacia, q. s.	℥iii
	Syr. ipecac	ʒiii
	Morph. acet	gr. i
R.	Liq. ammo. acet.	℥ii

M. Sig. Teaspoonful every two to four hours as indicated.

When the pulmonary symptoms are more marked by cough, pain in the side, with dulness over a portion of the lung, and crepitation, I usually give: tinc. digitalis, 15 minims; carb. of ammon., 5 grs.; in simple syrup every two to four hours; and commence early with strychnia sulph., 1-40 gr. every three to six hours as indicated. If pain is severe, use morphia subcutaneously, but never use it unless clearly demanded.

For the relief of pain of pleurisy or pneumonia, I use an oil-silk jacket lined with domestic, and apply under it, to the affected side, a poultice made of 7 parts of flaxseed meal to 1 part of mustard. When applied this way it retains its moisture twenty-four hours or longer, and the heat can be kept up if desired by applying externally, over the clothing, a hot-water bottle, or a bag of hot salt. When the pain and other symptoms continue without any amelioration, for three or four days, a blister over the affected portion of the lung has usually given me satisfactory results.

If gastro-intestinal complications arise, they should be treated with appropriate remedies. In irritability of the stomach, with diarrhea, 1-10 gr. doses of calomel combined with 1 gr. of bicarb. of soda, 5 gr. each of salol and sub. nit. of bismuth every two or three hours, is very beneficial. Give Dover's powder or deod. tinc. of opii if necessary, for the pain. If the stomach is too irritable for this, use morphia subcutaneously or deod. tinc. opii per rectum. Often, lavage of the stomach and bowels with a warm solution of boric acid, 60 gr. to the quart, is followed by much relief. If this is not done, salines may be needed to clear out the alimentary canal.

When severe nervous symptoms are among the complications, our skill is frequently taxed to its utmost. If head symptoms are acute and the pulse strong, antipyrin, phenacetin, or bromid may be tried, and if not relieved hypodermics of morphia may be given.

When the pain is attended with much fulness and roaring sounds in the head, I have had very satisfactory effects from nit. of pilocarpin, 1-20 to 1-5 gr., subcutaneously every six to twelve hours.

In all cases the patient should remain quietly in bed, and the room should be kept well ventilated and warm, but not overheated. The diet should be light, and nutritious, and given methodically. Stimulants should be used as indicated. Convalescence ought to be well guarded, as relapses are common.

CEREBRAL HEMORRHAGE.*

BY J. M. AIKIN, M.D.

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OMAHA, NEB.

Cerebral hemorrhage is commonly regarded as of rare occurrence, and is expected in the aged only. That we should suspect it in middle life, youth, and even childhood, more frequently than has been our custom, is doubtless true. It occurs oftener in the male than in the female, and is of all cerebral affections the most common. A greater proportion of cases obtain among persons residing in the temperate climates than on other parts of the globe; and more attacks occur during the winter season than in summer.

Gowers says, "taking all forms together, meningeal hemorrhage is far more frequent, both in youth and in the middle period of life, than intracerebral bleeding." The text-book picture, of the short, stoutly built, high-shouldered and thick-necked man with a florid face, as being the typical type for a cerebral hemorrhage, is worthy of consideration, because of its antiquity only; for an observing person who has seen any considerable number of cerebral hemorrhage patients will be impressed by their frequency in those of the opposite build and temperament.

We sometimes confuse cause with effect; for apart from an external injury producing immediate bleeding the sudden giving away of a blood-vessel in the brain is but the culmination of an arterial degeneration. Etiologically, we must consider the existing pathology in the artery; morbid blood states that may cause such pathology, or the normal blood under the influences that actually rupture the vessel. We pass the traumatic element, to consider the causation in a spontaneous cerebral hemorrhage. So long as the walls of an artery are in a healthy state, they seldom if ever give way, however great the pressure from within. When a rupture does occur then, it is because the walls are weakened. Impairment may be due to tissue degeneration, without change in the caliber of the vessel, or thickness of its walls, by reason of syphilitic virus, lead poisoning, alcoholic or other toxic elements carried in the blood, just as the arteriosclerosis in the aged is, in many cases, a calcareous deposit. Or in the absence of a morbid blood state, any influence causing and continuing an increased blood-pressure will distend the arterial walls at the expense of their thickness. This condition persisted in, gives rise to a periarteritis, thickening of the lymph sheaths, with consequent changes in the muscular tissue in the walls, favoring the formation of miliary aneurysms. It is alleged that hemorrhage is more frequent among men, while embolisms maintain a higher per cent. of frequency in the other sex. If we accept the former as in reality true, it may at least in great part be explained by the mental strain imposed on business and professional men—rather than women—who assume the aggressive part in life's responsibilities. Men in every position of mental application are exerting their utmost efforts for material and intellectual supremacy, using every known artificial aid to stimulate their fatigued nervous system to greater efforts until, exhausted, they collapse by over-pressure. One other etiologic element contributing to the pathology favoring cerebral hemorrhage, possibly more potent for evil than any other cause we have yet suggested, is the high mental pressure enforced on school children, by requiring the maximum amount of intellectual effort, and the minimum attention paid to their physical growth. This fault, prevailing as it does to an alarming extent in the city schools, is materially lessened in the rural districts, where manual labor and outdoor exercise being compulsory, develop the physical, commensurate with the intellectual growth.

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* Read before the Elkhorn Valley Medical Society, Norfolk, Neb. July 11, 1899.

We may not as yet, be fully able to recognize some potent factors causing diseased vessels, but post-mortem facts reveal miliary aneurysms as very frequent in persons from 20 to 30 years old, and they are by no means rare in the earlier years of life. The old but erroneous belief that arterial degeneration belongs to the aged only, doubtless has led some good clinicians into error. Whatever may have been true in generations past, regarding the integrity of the vascular system in early life, we are forced to confront the fact that the high mental pressure of modern commercialism and specialism tends to bring the old age period to the individual, sooner than in former years. The persons who represent the physical and mental activities in life's duties are not among the easy-going careful livers. Nervous tension is begun early—even in the kindergarten—and relentlessly pursued to the counting-room or professional calling, regardless of natural laws governing the physical organism.

Reviewing the history of recorded symptoms in cases of sudden cerebral lesions, we find a multiplicity of clinical manifestations evidenced by a disturbed nervous economy; but the observing clinician has noticed the frequency with which like clinical manifestations in the nervous system point to widely different pathologic conditions. Thus, when we have expected a hemorrhage and found an embolism, or a tumor and found an abscess, our faith in the clinical evidence is weakened, and we are unwilling to pronounce on a cerebral hemorrhage, unless certain well-marked and long-established symptoms point with unvarying certainty to an apoplexy in the brain. In the "minor," "partial" or "delayed" apoplexies impairing motor power in one limb or group of muscles, with the sensory and intellectual powers normal, we defer our diagnosis. If in addition to impaired motor power, there is disturbed sensation or impaired mental powers, we are more certainly perplexed in making a diagnosis.

These form the class of cases that are becoming proportionately more numerous, and in which we are almost certain to find miliary aneurysms that are the logical result of some one or more of the etiologic factors to which I have referred. The immediate cause of the rupture need not be more than a slight emotion, physical exertion or excitement, sufficient for a temporary increase of blood-pressure.

Conscious of this uncertainty of manifestations by the nervous system, for differential diagnosis of a cerebral hemorrhage from other cerebral lesions, I began a series of observations on the pulse and temperature record, and found a slow, undulating or wave-like radial pulse quite characteristic and constant in cerebral bleeding, while the temperature was either normal or a little sub-normal. These conditions obtain only during the early hours of a hemorrhage, and if the pulse is as indicated, with an existing normal temperature, the bleeding is probably of capillary origin and progressive. My observations are in harmony with the principle laid down by Nothnagel and emphasized by Gowers, that the most important indications of the nature of sudden cerebral lesions are derived, not from the nervous symptoms, but from those of the vascular system.

Our treatment, then, whether medical or surgical, must be in the direction of stopping a leakage in one or more arteries. In this, as in internal bleeding in other parts of the body, absolute rest in the prone position is imperative. The introduction of such drugs as tend to contract the arterioles should be given subcutaneously or by the mouth. Pressure in the bleeding vessels may be lessened by the proper use of such remedies as will cause a determination of blood to the kidneys, or other secretory organs, this being especially true when the case presents a high blood-pressure. Surgery through the calvarium, for the purpose of making local pressure or ligations, has not been resorted to in many cases, but it is certainly a broad and interesting field for investigation, that should receive more attention than has hitherto been exercised.

To arrive at a knowledge of when and where to operate necessitates, not alone the diagnosis of a cerebral hemorrhage, but its topical location, for which both neurologist and surgeon must work together. Inasmuch as the sudden and profuse hemorrhages are usually quickly fatal, the cases most suitable for operative action are the slowly progressive bleedings for which I have, in this paper, attempted to assist my fellow-physicians to an early diagnosis.

THE SCOPE OF THE UNITED STATES PHARMACOPEIA*.

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The object of this paper is not to urge any pet suggestions for the improvement of the "U. S. Pharmacopeia," but mainly to offer the results of some work in the direction of collecting opinions, which are believed to well represent the medical profession, bearing on the present status and future usefulness of the book.

It will be admitted that the "U. S. Pharmacopeia" must have been born of a need on the part of the medical profession. Its plan originated in the Medical Society of the County of New York, in the year 1818, having been proposed by Dr. Lyman Spaulding; and its promulgation and its perpetuation for the first thirty years were effected entirely through the efforts of physicians. These facts must stand as proof that the need of such a book was regarded as fundamental; and in the plan of successive revisions we see evidence of a belief that such need must be perpetual.

These points in history will bear emphasis at the present time, when physicians possess so little knowledge of this work It is safe to say that, the country over, not one physician in one hundred either possesses a copy of, nor has any direct acquaintance with, the "U. S. Pharmacopeia." Either physicians have drifted away from the book or else it does not meet their present needs.

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*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

It may be presumptuous to remind the members of this Section of the unique character of this work. It is a standard first and last. As such it is the property of the professions of medicine and pharmacy, without any individual proprietorship whatever. These professions, therefore, have the power to make the volume what they will, unhampered by any vested rights, and this is an immense advantage in maintaining both its standard character and the strictly disinterested quality of the information it contains. This advantage must always be zealously guarded.

Before discussing the question of scope you will permit a reference to the increasing excellence of successive past editions. Credit for this is due to both professions, for in the preparation of the more recent issues the work of pharmacists has been prominent and valuable. The great interest taken by pharmacists in the work of revision was particularly shown in the composition of the pharmacopeial convention of 1890, where, of a total of 190 delegates, only 85 represented medical colleges and societies, while 105 represented pharmacal colleges and societies.

We must not undervalue the importance of pharmacal aid; but, recalling the fact that the book was originated by physicians in response to a need on their part, are we not shirking our duty in respect to its perpetuation when we allow pharmacal influence to predominate in the convention which directs its issue?

There is some difference of opinion as to what should be the scope of the book. A most conservative view—one that is based on a full recognition of its position as a standard—would strictly exclude every article that has not stood the test of time and of ethics, or of which positive physical or chemical qualities can not be taken as determining purity or strength. On the other hand, an ultraliberal view would admit many new substances, for the purpose of putting them on trial so as to test their value. Between the two there are all grades of opinion; and, while the former view has prevailed in the past, during the present decade there has been much discussion of the question of introducing new features in the next revision.

While all such discussion has undoubtedly been from proper motive and with a desire to serve the best interests of medical science, we must not forget that one object, that of maintaining a standard, must be paramount to every other. The Pharmacopeia is nothing if not a standard. But with new therapeutic requirements we may of necessity be nearing the view-point which would make its scope as broad as its character as a standard will permit. We may also have to admit other than physical and chemical tests for certain substances. For example, we will doubtless agree that antitoxin should be made to conform to some standard. But how can we fix a standard for it within present pharmacopeial usage? The question is certainly complicated by the fact that our materia medica has been much enlarged in recent years by the introduction of whole new classes of remedies—the synthetics, the serums, the products of gland function, etc. Moreover, the recognized indifference of the medical profession toward the work may be vitally related to the scope of past editions. Does it meet the needs of the physician in his present use of remedies? The question therefore is not a simple one.

It was with this view that a committee of the Medical Society of the State of New York, two years ago, began efforts in the direction of increasing medical interest in the Pharmacopeia, some of the results of whose work I take pleasure in presenting to you.

To begin with, it seemed essential to ascertain prevalent medical opinions of the "U. S. Pharmacopeia." The men who would be most competent to pass opinion on the book, by reason of acquaintance with it, would naturally be the teachers of materia medica and therapeutics in our colleges. It was believed that this class of teachers would fully represent medical views. Therefore, to them were addressed the following questions: 1. Do you find the "U. S. Pharmacopeia" meeting the demands as a standard for drugs and preparations? 2. Is it abreast of the present advances in medical and pharmacal science? 3. What in your opinion stands in the way of its more general use by practicing physicians? 4. What can you suggest in a general way in the line of improvements in the "U. S. Pharmacopeia" at its next revision?

Sixty responses were received. The deplorable lack of familiarity with the book was shown by the fact that even a few teachers of materia medica confound the Pharmacopeia with the "U. S. Dispensatory."

Excusive of these, the answers to Question 1 were as follows: Yes, 34; yes, qualified, 7; no, 9.

The answers to Question 2 were: Yes, 29; yes, qualified, 9; no, 11; no, qualified, 4.

The varied character of the responses to Question 3 does not admit of any concise tabulation. We will therefore simply group them so that the more common tendencies of thought indicated by them may appear. Among the reasons given in answer to this question we find: 1, as relating to the character of the book, 9, mention impracticability, 8 incompleteness, 5 speak of lack of business enterprise and 2 of surplus of obsolete drugs; 2, as relating to the attitude of physicians, 11 charge them with ignorance or indifference, 5 mention their use of ready-made compounds and 3 give bad teaching as a reason. In addition, 8 give a reason which is no doubt quite potent, viz., the enterprise of proprietary manufacturers.

The suggestions in response to Question 4 are numerous, varied and interesting. They bring into prominence particularly the questions of: Lessening the present contents of the book; extending its scope by the introduction of doses, and otherwise; more frequent editions or issue of supplements, and furnishing information on new substances.

Following the lead of these most prominent suggestions, a series of more definite propositions was prepared and later submitted to the same class of medical men, and 100 responses were received, answered as follows:

To Proposition 1, that all drugs and preparations not now prescribed to any extent by physicians be dismissed, the answers were: Yes, 55; yes, qualified, 11; no, 2; no, qualified, 5; no comment, 27.

To Proposition 2, that all chemical drugs necessary to other preparations, but which are not directly prescribed, be placed in a list apart from the body of the work, the answers were: Yes, 91; yes, qualified, 2; no, 2; no, qualified, 2; no comment, 2.

To Proposition 3, that doses be included in the next revision, the answers were: Yes, 88; yes, qualified, 3; no, 6; no, qualified, 2; no comment, 1.

To Proposition 4, that doses be placed in the index rather than in the text of the book, for readier reference and to avoid making them official, the answers were: Yes, 63; yes, or in an appendix, 4; yes, qualified, 3; in both text and index, 10; no, 12; no, qualified, 8.

To Proposition 5, that a section be devoted to giving reliable information concerning new remedies, without in any sense making them official, the answers were: Yes, 83; yes, qualified, 8; no, 6; no, qualified, 2; no comment, 1.

To Proposition 6, that an annual supplement of a few pages, for the purpose of continuing similar disinterested information concerning new drugs, be issued, the answers were: Yes, 80; yes, qualified, 5; yes, or biennial, 3; no, 7; no, qualified, 3; no comment, 2.

The comments which accompanied these replies indicate a very decided sentiment in favor of making the next issue of the Pharmacopeia a book of greater practical value to physicians; the large majority of affirmative answers to all of the propositions should at least entitle them to consideration by all who are interested in this subject. It is to be hoped that they among others may be taken up by the journals and be freely discussed before the Pharmacopeial convention meets.

Another suggestion which has gained some currency during the past year is equally entitled to consideration. I refer to the suggestion that incompatibles be named in connection with each official substance as far as is practicable.

There are other items, such as that of extending standardization, which this paper might have been expected to take up, but such fall now within the recognized province of the Pharmacopeia, and are therefore matters of practical detail rather than of scope of the work as a whole.

Finally, it should be urged on every medical society and college entitled to representation in the coming convention, to choose delegates and secure their attendance, so that a large number of practicing physicians and teachers may take part in its deliberations.

For the sake of medical science as a whole and of sound therapeutics in particular we can not afford to neglect this important work.

SURGICAL TREATMENT OF HIGH MYOPIA.*

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Myopia of high degree is extremely rare in my personal experience. This is somewhat remarkable as a considerable proportion of my constituents are of German extraction. I have measured the eyes of more than 6000 patients during the last ten years, in my private practice, and I append a table showing refraction of 5000 eyes. These statistics only include those cases in which a complete examination of the eyes under a cyclopegic was made, all doubtful cases having been eliminated.

Refraction.	Number of Cases.	Percentage.	Percentage.
Myopia	179	3 7	17 3
Myopic astigmatism	295	4	
Compound myopic astigmatism	481	9 6	
Hyperopia	1192	23 8	77
Hyperopic astigmatism	562	11 2	
Compound hyperopic astigmatism.	2098	42	
Mixed astigmatism	283	5 7	5 7
	5000	100	100

I was somewhat surprised to find out that out of 5000 eyes there were only 179—3.7 per cent.—of simple myopia, and that including simple myopia, myopic astigmatism and compound myopic astigmatism, altogether there were only 955 eyes—17.3 per cent.— with myopia. A table is appended of the 29 eyes having high myopia over 10 D., which are only .58 per cent. of the whole number.

	Refraction.	Treatment.	Remarks
1	−10 0 Diopters. −14 0	Correction of refractive error.	Extreme choroidal atrophy, mac. degen , post staphyloma.
2	−17 0 −13 0	Correction. Correction.	Post-staphyloma, spots in vitreous beginning lentic opacity.
3	−16 0 −16 0	Correction. Correction.	Staphyloma, central chorio-retinitis, R. E. O. N. A.
4	−16 0 −16 0	Correction. Correction.	Conical cornea.
5	16 0 16 0	Correction. Correction.	Advised operation, not accepted.
6	12 0 12 0	Correction. Correction.	
7	11 0 −11 0	Correction. Correction.	Hydrops. corneal irreg. astig. staphyloma from ophthal. neonat.
8	−10.0 10 0	Correction. Correction.	
9	−13 0 −13 0	Correction. Correction.	Post-staphyloma.
10	−13 0 ⌢ −1 00, 180 10 0 ⌢ −1 50, 180	Correction. Correction.	Choroiditis.
11	10 0 ⌢ −2 00, 180 −10 0 ⌢ 2 00, 180	Correction. Correction.	O. N. A. V. F. contracted.
12	−14 0 ⌢ −3 00, 10 −20 0 ⌢ −3 00, 175	Correction. Correction	R. E. slight staphyloma. L. E. large. post-staphyloma, extending to macula.
13	−17 0 ⌢ −2 75, 180 −16 0 ⌢ 1 50, 180	Operation. Operation.	Well developed conus, R. and L.
14	−18.0 − 1 25 ⌢ 75, 75	. . . Correction, L. E.	R. E. amblyopic.
15	−20.0 ⌢ 1 00, 90 -17	Correction.	This case was attended by diplopia and 25° esophoria, which was corrected by advancement and tenotomies. The lenses are well borne.

Operation has been suggested in only two instances and accepted in but one (13). Of the others, perhaps No. 12 would have been a subject in which operation could have been conscientiously recommended had we known of, or dared to have done, the procedure. In No. 15 the strong correcting glasses could be satisfactorily used after correction of the diplopia by operation, so removal of the lenses was not considered.

Case 1.—Miss J. L., aged 20, born in Norway, a resident of Manitowoc, Wis., was referred by Dr. J. F. Pritchard and came to the office July 6, 1897. She had worn several pairs of glasses on account of short-sightedness, but had received no satisfaction on account of the eye strain which occurred when she wore them.

Family history.—Father had good eyes; died of yellow fever in middle life; mother living and in good health; has always had weak eyes but never wore glasses; has had only the one child.

Personal history.—Patient had pneumonia at the age of 2 and again at 11; has never been strong and is now anemic; has always complained of weak eyes; has found it very difficult to study; has been very near-sighted since adolesence; has been employed as a house servant.

Examination showed a high degree of myopia with well-developed conus in both eyes; no opacities of vitreous; opthalmometric measurement showed corneal astigmatism:

R.=2.75, 90°. L.=2.25, 105°.

The refraction was:

R.=—16.00 ⌢ —3.50. V.= 6 36.
L.=—14.00 ⌢ —1.25, 180 . V.=6 36.

For distance this correction was given, and a reduction of 4 D. from spheres for close work. These glasses were better borne than those which she had been wearing, but she was unable with them to follow up her ambition of becoming a dressmaker.

June 15, 1898, operation for removal of the lens was advised, accepted and the patient sent to the hospital. On the following day, discission of the right lens capsule was performed under holocain anesthesia and atropin mydriasis; but little reaction. July 2, 1898, a second discission was done, which caused considerable reaction, although the patient was allowed to go home. July 14 she wrote that she had great pain; anterior chamber shallow; lens decidedly swollen. July 26 she came to the hospital; lens greatly swollen, disintegrating and bulging into the anterior chamber; tension +2; lens matter was removed by linear incision under holocain anesthesia, a clear pupil immediately resulting. The further course was uneventful.

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September 16 the ophthalmometer showed corneal astigmatism in the eye operated on, of 2.50, 105°, with +1.00 ⌢ +2.00, 115°, V.=6/24; with addition of +3.50 sphere Sn. 1 was read at 0.50.

September 17, the effect of the operation having been satisfactory in the right eye, a discission was done on the left lens capsule, and at first was followed by no reaction, but two weeks later the lens became so much swollen that tension increased and pain occurred, so that it was extracted October 1, by linear incision, which was followed by clear pupil. The further course was uneventful.

November 15 a secondary operation was done on the capsule remaining in the right eye. At this time the ophthalmometer showed corneal astigmatism for the left eye, 4.25, 75°. The refractive condition was:

R.=+1.00 ⌢ +2.00, 115°. V.=6/24.
L.=+ ⌢ +3.00, 75°. V.=-6 24.

With these she has binocular vision and with the addition of 3.50 spheres for the near point can read Sn. 1.0 at 0.50.

She has been seen or written several times since, and expresses herself as being very well satisfied with the improvement of vision and with the increased use of her eyes which she has obtained through the effect of operation. Under date of Dec. 21, 1898, she wrote me "that she could see first-rate in the distance but not so well near by." It may be that readjustment of the reading glasses will satisfy her more completely. There has been no tendency toward any other complication than that from the excessive swelling of the lens, and to this date the eyes are in very much better condition than before the operation.

Through the kindness of Dr. Chas Zimmermann[56] of Milwaukee, I am enabled to describe the following case of high myopia which he has treated by discission and which I saw with him in consultation, April 9, 1898:

CASE 2.—A well nourished male, aged 25, applied to Dr. Zimmermann on Feb. 8, 1898, with binocular myopia. Vision: R. and L. fingers at five feet, not distinctly; read No. 1 Sn. at 2½ inches; vision with —20, O.D.=fingers at ten feet; ophthalmoscopy and skiascopy show about —20, O.D. There were floating opacities of vitreous in each eye, large staphyloma posticum and choroidal changes; visual fields apparently normal.

Feb. 9, 1898, discission of the right anterior capsule was done, the crucial incision with knife needle in atropin mydriasis. February 13 the lens was opaque; some opaque lens matter in the anterior chamber; slight ciliary injection, no pain, tension not increased, daily massage of the eyeball in order to stir the opaque lens matter was made.

Since the absorption did not progress, March 1, 1898, second discission was made more extensive and deeper into the lens substance. The next day there was no pain nor unpleasant reaction; more opaque lens matter in the anterior chamber. April 9 the anterior chamber was full of lens matter, some of which projected from the capsular wound; the whole lens, especially the center, had a more bluish appearance, a sign of advanced absorption. As there was no need of extraction, he was allowed to return to his home in Minnesota with the advice to immediately come again if symptoms of irritation should set in.

In answer to an inquiry, Jan. 23, 1899, a letter was received stating that the lens matter has been entirely absorbed except a small circle around the pupil. June 28, 1898, an opening in the center had been formed which grew larger until about two months ago, when no further change occurred. He can see very much better than before, can read ordinary print at twelve inches, whereas before he had to hold a book at two inches. He expects to return for the final discission of the posterior capsule and operation on the other eye.

These two cases are the only ones to my knowledge that have been operated on in the Western States with the exception of several in Chicago by Dr. Casey A. Wood, who, with Wm. F. Smith, performed the first published operation in America, 1890[53]; and others of which I have only indirectly heard. Both the above cases have apparently been satisfactory to the patients. In Zimmermann's case only two discissions without extraction accomplished absorption of the lens. The refraction being about—20 D. it was well adapted for procedure. The patient will ultimately be enabled to either do without glasses for near work or simply have the correction of his astigmatism made, and wear but weak concave lenses for distance. In my own case it was necessary to do linear extraction upon both eyes. The advantages gained for distance have been much greater than those for near work.

Up to the year 1890 total or partial opacity of the lens was the only recognized indication for removal; with the exception of cases of dislocated lenses described by Harlan[15], Alt[1], etc. In 1858 Mooren[32] reported cases of removal of cataract in myopic patients. In 1894 Fukala[9] published a series of 114 cases of removal of the clear lens by discission, or by his third and subsequent extraction. In 1893 Vacher[49] proposed extraction of the clear lens for high myopia, but this procedure has not met with acceptance among the majority of surgeons who have been bold enough to attempt operation in this class of cases.

The refractive conditions applicable for the operation, range from minimum of—10 D. (Hirschberg[21]) to—14 D. of other writers; Schreiber[44] says —16.0 D. The highest degree yet operated on was in a patient of Schweigger's[46] who had —33 D. The amount of lowering of the myopic refraction depends on the amount of axial myopia present, and is not the same for all eyes. If the lens be removed from an emmetropic eye, it becomes, according to Donders[4], about from 10 to 11 D. hyperopic. However, there is another condition to be counted on in the case of myopia, and that is, increase in the length of the eyeball. By the removal of the lens in an eye approximately—17 to—18 D. emmetropia for distance is produced. Even so recent and so thorough a work as that of Stricker is an error on this point; the same will be found in Donders, Helmholtz[20] and Landolt[25].

Edward Jackson[22]* gives mathematic calculations regarding the results produced by the removal of the lens in the following which is according to measurements from the schematic eye of Helmholtz: "In the normal emmetropic eye the rays which strike the cornea parallel reach the second lens, the crystalline, converging to a point 31 mm. —6=25 mm. behind it. They reach the crystalline, then 40.0 D. convergent. To this is added 20.0 D., the converging effect of the crystalline, making 60.0 D. The rays are, therefore, focused 1000÷60=16.667 mm. behind the crystalline. 16.667 +6=22.667, the anterior-posterior axis of the emmetropic eye. If we remove the crystalline lens and replace its effect by adding to the refractive power of the cornea, the refractive power required to be so added is the strength of a convex lens correcting the hyperopia caused by rendering a previously emmetropic eye aphacic. After removal of the crystalline, the cornea would require to have a strength of 1000÷22.667=44.12 D. —32.26, the refraction of the normal cornea, equals 11.86 D., the hyperopia measured at the cornea produced by extraction of the crystalline from the emmetropic eye. To correct this hyperopia the lens placed at the ordinary distance of a lens in front of the eye would be a convex 10.5 D."

"In contrast to the above, let us use the dioptric eye to ascertain the amount of previous myopia necessary for the removal of the crystalline lens to render the eye emmetropic. To give emmetropia after removal the retina must lie 31 mm. behind the cornea. To be focused upon the retina, rays must leave the crystalline converging toward the point 25 mm. behind the crystalline; that is 40 D. convergent. If they must be rendered 40 D. convergent by the crystalline and its refractive power is 20 D. they must have been $40-20=20$ D. convergent when they fell upon the crystalline. They must have been converging toward a point $1000 \div 20=50$ mm. behind the crystalline, which will be $50+6=56$ mm. behind the cornea. Such rays must have left the cornea convergent $1000 \div 56=17.86$ D. convergent. If they are rendered thus convergent by the cornea having a refractive power of 32.26 D., they must have been divergent on reaching the cornea, to the extent of $32.26-17.86$, 14.40 D. as measured at the cornea. Such a myopia would be corrected by concave lenses of 17 or 18 D. placed the ordinary distance in front of the cornea. This, then, is the amount of myopia as ordinarily measured and expressed, that can be corrected by removal of the crystalline."

Hirschberg[21] gives a rough rule for the estimation of the ocular refraction before and after removal of the lens, which is approximately correct: To obtain the correction for distance of the myopic eye after operation, deduct one-half the amount of the correction of the myopia before the operation from 10 D. Salzmann[37] states that the most desirable effect in removal of the lens in high myopia would be not to leave the eye emmetropic, but slightly myopic—2 to 3 D. If the myopia be greater than 18 D., concave glasses for distance are necessary, and the patient may perhaps be enabled to get along without glasses for near work. This is exemplified by Zimmermann's[56] case.

Mooren[31], basing his statements on observations covering 150,000 cases, claims that the wearing of full correcting lenses in myopia for near work is pernicious and is to be condemned because they require exercise for the accommodation, induce ciliary spasm, intensify the refractive error and cause progressive myopia, and states that there is danger in such an event, of detachment of the retina and slow inflammatory changes. In contrast to this is the statement of Edward Jackson[22], that high myopia has probably been more generally relieved by lenses here than abroad. (See Case 15, my series.) The statement that patients can never wear lenses of —13 to —15 D. with satisfaction is disproved by our practical experience. Correction of over —18 D. by lenses is impracticable in many instances, on account of the smallness of the retinal images, the spheric and prismatic aberration therefrom resulting.

Some authors—Von Hippel[16], Vacher[49], Valude[50], Pflueger[34], [35], Everson[6]—claim that after the removal of the lens in high myopia there is an actual shortening of the globe, and that the operation is a preventive measure against progressive myopia, for it hinders further lengthening of the eyeball. American and English authors—Sattler[38], Lawford[27], Cross[2]—are more conservative, and state that the operation is contraindicated in all excessive degrees of congenital or acquired myopia in which a tendency to inexorable progression must be admitted, together with unmistakable evidences of structural disease of the uveal tunic, vitreous humor and retina. Von Hippel[16] has operated in 114 cases, mainly by discission, with extraction of the lens mass in some cases, and confines operative interference in children and young adults in whom the myopia shows a progressive tendency and in myopia adults who can not follow their occupation by the use of glasses; in no case operating unless the myopia has advanced at least 12 D. It is advisable to operate on both eyes.

Magen[29] and Sattler[30] of Leipzig report satisfactory results in patients up to 64 years of age. Fukala[13], Pflueger[35], Vacher[49], and Schweigger[46] have operated most successfully on young adults, and on a few between 35 and 50 years of age, but recommend the operation only in young patients where the chorodial changes are stationary. Fukala[12] does not consider an eye suitable for operation unless vision is equal to 1/10 with the correcting lenses, and the patient should be able to read Jaeger No. 1. Other German authors, particularly Magen[29] and Fröhlich[3] are more radical, recommending discission for complicated cases of high myopia in all ages.

We have the choice of two methods of operation, both of which lead to the same end, the removal of the lens and reduction of the refraction. The operation should be invariably preceded by a carefully guarded traumatism which brings about a cataract, softens the cortical substance and loosens the nucleus from the capsule[38]. In young persons the operation of anterior discission fulfils this indication. One or two subsequent discissions may cause subsequent absorption of the lens substance after several months; but in the majority of cases, after the first or second discission, it will be found necessary to evacuate the contents of the capsule by linear extraction. Magen[29] shows that the nucleus of the lens in high grades of myopia even in old persons is never hard and may be satisfactorily dealt with by discission. Sattler's[39]—Leipzig—modification, which he has done on thirty patients up to date, by which he claims more rapid healing, least inflammation and less operative astigmatism, is done with the Weber hollow lancet; the nucleus and lens substance being curetted with Daviel's spoon.

Vacher[49] and Valude[50] are the chief exponents for extraction of the transparent lens, but Fukala and others state that it has been abundantly shown that extraction of the transparent lens is not the correct method. Fukala[13] recommends iridectomy and discission, but instillation of the iris is discountenanced by other operators.

The main theoretic disadvantage of the operation is the loss of accommodation resulting from removal of the lens, but does not this eliminate one of the main causes of ciliary spasm? Another disadvantage is the fact that, while we increase the visual acuity for the distance without glasses, it is usually more or less injured for the near point. It should be likewise remembered that increase of visual acuity may not be attended by increase of perceptive power. Some authors[29] say that the operation is without danger, but there is always danger in any operation on the eye, especially in incising operations. Otto[44] had increase of tension in twenty-three out of every eighty-five cases, and thinks that the worst complication from the operation is detachment of the retina. Sattler[39] had loss of vitreous in 25 per cent. of his cases.

Schreiber[44] is one of the most conservative German writers on this subject. He thinks that too many myopes have been operated on. The operation is attended with danger from infection and retinal detachment. Most eyes have to be operated on at least three times to produce a good result, and these operations are more liable to infection than those of senile cataract. He states that 16 D. is the lowest grade that should be operated on, and even this is not advisable if the patient is able to work satisfactorily with or without this correction. Out of 5094 cases of myopia, only eighty were 16 D.—12 per cent. Of these, only thirty-six could be recommended for operation, an average of three a year in fourteen years. (Note my statistics.)

Rogman[36] publishes a very complete history of each of his twenty-one cases of high myopia treated by operative measures. The age of the patients ranged from 14 to 65 years. The degree of myopia varied from 14 D. with astigmatism to 30 D.

Fuchs[36] reports that among 18,000 new patients in his clinic only ten were found which were suitable cases for the operation.

Frölich[8] shows that the total loss in reports of 572 operations for myopia by infection was a little over 2.2 per cent., and the other danger which has been held up as especially apt to occur, that of detachment of the retina, happened in 2.2 per cent., making the total loss by infection and retinal detachment about 5.5 per cent. However, a considerable proportion of cases of myopia without operation, nearly 5 per cent. (?) sooner or later acquire detachment of the retina. In my case there was increase of tension, which might have proceeded to glaucoma had it not been relieved by removal of the lens matter by linear incision.

The results of operative treatment seem to substantiate the claims made for the operation. It should be remembered that the object of the operation is principally to accomplish the reduction of the power of the dioptric apparatus, whether the myopia be axial or dioptric or both. However, we obtain concomitant advantages: 1. Increase in the visual acuity which is two to three-fold in selected cases after correction of the residual ametropia and without correction is many fold. The ideal myopia for correction by removal of the crystalline lens is —17 or —18 D., and in such cases a perfect operative result should give 55 per cent. improvement of vision and escape all need of wearing strong lenses. The bettering of visual acuity is not synonymous with bettering of visual appreciation. Laber thinks that part of the improvement in visual acuity is due to favorable influence on the health of the retina and not to improvement of the optical condition.

The retinal images are larger after operation than before in the myopic eye that has become nearly emmetropic. The reason for this is shown by Jackson[22]: "A sufficiently accurate approximation for practical purposes may be reached by considering the effect of the increased length of the eyeball antero-posteriorly as compared with the reduced eye of Donders. In the emmetropic reduced eye the nodal point is 15 mm. in front of the retina. In the eye so myopic as to be rendered emmetropic by removal of the crystalline lens, the nodal point is the same distance behind the cornea, and the increased length of the eyeball is to be added to 15 mm. to find the distance in front of the retina. The latter eye being 31 mm. long, as against 22.2 mm., the length of the normal emmetropic eye, the difference of 8 1-3 mm. is to be added to 15, making the distance from the retina to the nodal point 23 1-3 mm. Since, for a given object at a fixed distance, the size of the retinal image is directly proportioned to the distance of the retina from the nodal point, the linear dimensions of the retinal image of such a myopic eye will be to those of the emmetropic eye as 23 1-3 is to 15. The retinal image of the myopic eye will be 55 per cent. larger than that of the emmetropic eye, the correction of myopia by concave lenses placed at the anterior focus of the eye, the position usually assumed for the size of the retinal image of the emmetropic eye. But the correction of the myopia by removal of the crystalline, carrying the nodal point only from 7.321 to 7.829 behind the cornea, leaves the size of the retinal image practically unchanged. Hence the gain in size of the retinal image by this latter means of correcting myopia is 55 per cent.; and this is about the improvement in visual acuteness that we can expect from a perfectly satisfactory removal of the crystalline lens, if the myopia is axial. If the myopia is myopia of curvature the gain will be less."

The visual field is decidedly enlarged; this is even without correction of the residual ametropia, and is especially enlarged in comparison with the effect of the stronger concave lenses which were worn before the operation. The increase in the angle of vision is brought about by the reduction of the dioptric apparatus from a compound to a simple system.

With correction there is increased range of vision for near work, although accurate vision can only be done at one fixed point, for there can be no accommodation after removal of the lens, although attempts at the same are made by the ciliary muscle.

As is well known, strong spheric and cylindric lenses can not neutralize ametropia of high degree, for the dioptric apparatus is not perfectly spheric, the cornea is an elliptoid of three axes, even the visual zone of the cornea and lens is eccentrically and irregularly astigmatic. In the highly myopic eye, the effect of these conditions is exaggerated and spheric lenses do not fully correct the error nor give normal visual acuity. The reduction of myopia by operation permits abnormalities and thus increases the visual acuity.

By the pupil being usually brought nearer to the retina after the removal of the lens; the eccentric visual rays are more excluded as the diaphragm is nearer the nodal point.

The clinical value of the operation lies mainly in the more extended use of the eyes obtained by the patients; they are most highly delighted with the effects, claiming that a new world has been opened to their view. The doing away with the annoyance of heavy concave glasses and their resultant small images and the eye strain produced by their prismatic effect, is largely responsible for this amelioration. After the completed operation, the patient has to wear two sets of lenses, but in high degrees this had to be done before. In myopia of about 18 D. after operation some patients are able to get along without any glasses for distance, as does the emmetrope and in the case of myopia 21 to 22 D. he may even dispense with glasses, just as myopes of about 3 D. get along very well without their correction.

RESUME.

1. Surgical treatment of myopia should be limited to those cases over 12 D. who suffer great inconvenience from their correcting lenses. The ideal cases for operation are those of 17 to 18 D.

2. The operation is mainly indicated in young adults.

3. Cases having active disease and changes in the ocular structures, such as progressive myopia, choroidi-

tis, fluidity of the vitreous or detachment of the retina are not applicable.

4. The dangers of operative interference are more than counterbalanced by the results to be achieved, which are mainly increase of visual acuity and of the visual field, and more extended use of the eyes, which accompany diminishment of the refraction.

The opportunities for observation of high degrees of myopia, particularly of operation for this by the American surgeon, are limited in proportion to those of ophthalmologists in the old world. By individual reports, however, we can add our evidence to the already proved value of surgical treatment for this class of cases[55].

BIBLIOGRAPHY.

(Recent Literature or the Surgical Treatment of High Myopia.

1 Alt: Am. Jour Ophthal, 1895, p. 165

2 Cross, F R.: "Discussion on the Operative Treatment of High Myopia." Brit. Med Jour., Sept. 12, 1896

3 Distler: Physiol. Verein in Kiel, Nov. 29, 1897; Munch Med. Woch., 1898, 114.

4 Donders: "Accommodation und Refraction des Auges," 1866.

5 Eperon: Arch. d. Ophthal., 1895.

6 Everson: See Fukala, 12.

7 Frohlich: "Spontaneous and Post-Operative Retinal Detachment in Myopia"; Arch. f. Augenhkde., xxviii, i, 1898.

8 Frohlich: 'Surgical Treatment of High Myopia". Arch. f Augenhkde., xxv, 4, 1897.

9 Fukala: Trans. Internat. Ophth. Congress, Edinburgh, 1894.

10 Fukala: "Beitrag zur hochgradigen Myopie"; Ber. u. d. Versam mel. d. Ophth. Geschellsch., 1896; Wiesbaden, 1897 xxv, 265-273.

11 Fukala: "Zum Werth der Myopie Operationen u z. Berechnung der Achsenlange d. Menschlichen Auges"; Aertzl. Centr. Anz., Wien., 1897, ix, 285-287.

12 Fukala: "Heilung hochstgradiger Kurzsichtigkeit," 1896.

13 Fukala: "Zur Geschichte der Heilung hochgradiger Myopie durch Linsenentfernung"; Wien. Med. Presse, 1898, xxxix, 214-220.

14 Fergus: Trans. Internat. Ophth. Congress, Edinburgh, 1894

15 Harlan: "Contribution to the Question of Removal of the Lens in Myopia"; Trans. Sec. Ophth. A.M.A., 1896.

16 Von Hippel: "Operative Treatment of Myopia"; Deut. Med. Woch., Nov. 25, 1897.

17 Von Hippel: Munch. Med. Woch., 1894.

18 Von Hippel: Heidelberg Congress, 1895.

19 Haab: Heidelberg Congress, 1895.

20 Helmholtz: "Handbuch der Phys. Optik."

21 Hirschberg: "The Lessening of Myopia through Removal of the Crystalline Lens"; Centrblt. f. prak. Augenhkde., March, 1897.

22 Jackson, Edw.: "Removal of the Clear Crystalline Lens for High Myopia": Ophth. Record, Feb., 1898.

23 Jackson, Edw.: "The Dioptric Eye"; Annals Ophth., July, 1899.

24 Johnson: Trans Ophth. Soc., 1895.

25 Landolt: "Refraction and Accommodation of the Eye."

26 Lang: Trans. Ophth. Soc., 1895.

27 Lawford: "Discussion on Operative Treatment of High Myopia"; British Med. Jour., Sept. 12, 1896.

28 Leber: "Visual Acuity before and after Removal of the Lens in High Degrees of Myopia"; Arch. f. Ophth., xlii, p. 218-251.

29 Magen: "The Status for Operative Treatment of High Grades of Myopia"; Wien. Klin. Woch., 1-2, 1898.

30 Meighan: Trans. Internat. Ophth. Congress, Edinburgh, 1894.

31 Mooren: "Medical and Operative Treatment of Myopia and Its Complications"; Centrbl. f. prak. Augenhkde., Jan., 1897

32 Mooren: Heidelberg Congress, 1858.

33 Pergens: Klin. Monatsbl., Feb., 1895.

34 Pflueger: Arch. d. Ophth., 1893, abstract of papers of Heidelberg Congress.

35 Pflueger: Trans. Internat. Ophth. Congress, Edinburgh, 1894.

36 Rogman: Annals d' oculistique, Jan., 1899.

37 Salzmann: "The Visual Effect of the Removal of the Lens in High Degrees of Myopia"; Annals of Ophth., 1897, Vol, vi, 437.

38 Sattler of Cincinnati: "The Surgical Treatment of Ametropia'; Ophth. Record, Dec., 1898.

39 Sattler of Leipzig: "Operation for Myopia"; Klin. Therap. Woch. and Ophth. Record, Feb., 1899.

40 Sattler of Leipzig: Trans. Heidelberg Congress, 1895

41 Schanz: A. f. Ophth., xli, 1, 1895.

41 Schmidt-Rimpler: Trans. Internat. Ophth. Congress, Edinburgh, 1894.

43 Schoen: Arch. d. Ophth. 1894, abstract of paper.

44 Schreiber: Festsch. z. Feier d. 50 jahr. Bestehens d. Med. Gesellschaft zu Magdeburg, 1898.

45 Schroeder: Arch. d. Ophth., 1894, abstract of paper.

46 Schweigger: Arch. d. Ophth., 1893, abstract of papers at Heidelberg Congress.

47 Stadfeldt: Klin. Monatsbl. f. Augenhkde., March, 1896.

48 Stricker: "The Crystaliine Lens System. 1899.

49 Vacher: Soc. Franc. d' Ophth., May, 1896.

50 Valude: Arch. d' Ophth., 1892, abstract of paper at Paris Ophth. Soc.

51 Volker: Physiol. Verein in Kiel, Nov. 29, 1897; Munch. Med. Woch., 14, 1898.

52 Weiland: "What Amount of Axial Myopia Theoretically Produces Emmetropia of Distance after Removal of the Crystalline?" Annals Ophth., April, 1899.

53 Wood, Casey A.: Am. Jour. Ophth., p. 360, Vol. vii, 1890.

54 Wray: Trans. Ophth. Soc., 1895.

55 Wurdemann, H. V. and Murray, W. R.: "The Surgical Treatment of High Myopia"; Annals of Ophth., April, 1899.

56 Zimmerman: "Personal Communication," Jan. 30, 1897.

VERY HIGH ASTIGMATISM.*

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The purpose of this paper is to put on record a case of a rather uncommon but striking anomaly occasionally encountered in the refraction of the eye.

Since the subject of astigmatism has been brought into the domain of scientific and practical study, the principal questions referring to it, which have come under discussion, have related to its seat, frequency, variety, cause, effects on the visual acuity and comfort of seeing, the health of the eye and on the functions and disturbances of distant organs. Statistics bearing on the relative frequency of the different forms of astigmatism compared with one another and the refraction in general, are at hand, while the very highest forms have apparently not received the same attention. The trial cases appear to place the limit at 6 or 7 D.

The reason for this is obvious; astigmatism can only be adequately studied by the aid of reliable objective methods, and until such had been brought to such a degree of perfection as to be capable of the accurate determination of the direction of the principal meridians and the quantitative measurement of their refraction, the subject had remained one of uncertainty and surmise. Not only so, but the accumulation of statistics, which can only result from the published report of cases of individual observers, required time. We find, accordingly, that Donders makes the statement that at the time of the publication of his work, it was not yet possible to determine the limits of astigmatism; he recognized an error of 1-95 in one of his own eyes, and suggests that this may be an approximation to the limit on the side of the minimum while he was not prepared to fix a maximum, citing a case observed by himself in this direction of 1/5=8 D.

The scantiness of statistics and even of reports of individual cases appears to be rather striking, even at the present time. Thus, Galezowsky has reported three cases of astigmatism of from 12 to 15 D., which he appears to consider as well nigh unique—and even these seem to have belonged more properly under the rubric of conical cornea. He describes a conical lens with spherical and cylindrical surfaces, which he employed with satisfaction and recommended in similar ones. Fukala, the promoter of the operative treatment of high myopia, thinks that just as patients are unable to wear the strong spherical lenses, so high cylinders can not be borne.

. As a matter of fact, instances of strong cylinders worn with comfort have been reported from time to time. No doubt many here present have personal knowledge of the beneficial effects of such lenses.

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The question of the highest forms of astigmatism reduces itself, after all, to a study of the optical conditions of so-called irregular astigmatism and conical cornea. It is well known that high degrees of corneal astigmatism result from operations—sections. An instance of 26 D. has been reported by Dr. Edward Jackson. Such astigmatism undergoes very considerable modification in the course of time, at first rapidly, afterward more slowly, so that an astigmatism of 10 D. or more may diminish to 2 or 3 or perhaps disappear entirely in the course of a few weeks or months.

When the presence of irregular astigmatism has been established by one of the usual methods for the discovery of this anomaly, for example, Placedo's disc, which, of course, exhibits only corneal irregularity, the usual seat, however, the duty of the oculist is by no means accomplished. The means at our command for the study of such cases, besides the subjective method, are the ophthalmoscope, ophthalmometer, and the shadow test. When it is possible to obtain anything like a satisfactory view of the shape of the disc, even where the details can not be seen satisfactorily, the changes in the direction assumed by the principal axes of the elliptical nerve head, according as it is viewed in the direct and indirect images, will sometimes furnish a valuable clue to the direction of the axes and a surmise as to the amount of any element of regularity that may be present; the ophthalmometer may render similar service and more accurately indicate the amount of difference between the principal meridians; and skiascopy will give these indications, if present, with considerable certainty; in the midst of the broken reflex, the principal axes will be indicated, so to speak, by the general trend of the light, even if a distinct band is not present. Subjective examination is generally unsatisfactory if used alone. With the clues given by the objective findings, it may sometimes supplement the former with advantage, the general directions of the principal meridians once known.

Even cases of what are ordinarily considered as instances of rather high regular astigmatism, say from 3 to 6 D., are frequently accompanied by irregular astigmatism. Meridional astigmatism corresponding to spherical aberration of ordinary lenses—positive, if the peripheral portion of the pupil has the stronger refraction; negative, if the center is the more refractive; and the so-called "scissors movement,"—are often marked accompaniments of astigmatic eyes and a source of embarrassment in determining just what portion of the pupil is to be regarded as the visual zone and where the point of reversal for that zone is to be placed—circumstances too that frequently explain the uncertain and contradictory replies of the patient when under examination by the trial lenses, as well as certain statements and complaints in regard to the wearing of the glasses finally selected.

Very high astigmatism is, in fact, never purely regular—it is always accompanied by irregularity. The most important practical question in any case of marked irregularity is whether the refraction has a degree of regularity which is necessary to securing improvement. Painstaking examination will not infrequently accomplish this object after perhaps years of dissatisfaction and numerous disappointments on the part of the patient. To whatever degree the refracting optician may trench on the province of the oculist, we may be sure that cases of this nature will be left to the accomplished ophthalmologist to demonstrate his superiority over the spectacle vendor.

The argument for removal of the lens in high myopia is based largely on the alleged inability to wear the strong concave lenses required for its correction; it is evident that the disturbing defects of strong spherical lenses also inhere in strong cylinders; the latter possess additional inconveniences, as appear even in the weaker ones employed in daily practice. It must be admitted that such distortion will prove more or less annoying, but the question is not whether the full and entirely comfortable vision of the normal eye can be obtained, but whether the individual for whom no relief is possible in any other manner can not be aided in a marked degree; it is hardly necessary to refer to the operations which have been suggested on the cornea or iris, or to the conical or parabolic lenses which have been proposed for irregular astigmatism, but which have not made, and are not likely to make, their way.

These cases of high astigmatism resemble the ordinary form, in that they are congenital or, at least, usually acquired in early life, and hence come under notice in youthful individuals more capable of adapting themselves to their glasses, unlike the usual subjects of post-operative astigmatism. The amount of improvement which the correction of such errors is capable of effecting is not to be judged by any absolute standard. A glass which raises the visual acuity from, say 15/100 to 15/40 or only 15/70, may give greater benefit and satisfaction than, for example, increasing the vision from 15/30 to 15/10 in a case of myopia. Whatever improvement is effected is available for vision at all distances, both far and near, aided, if required, by the patient's age, by the requisite presbyopic correction.

As an instance of high astigmatism, I beg to report the following case:

E. L. S., aged 32, American, has always been healthy, and free from known disease of the eyes. He was first examined by me four years ago. The history he gave of his visual troubles is characteristic; he believed himself to be near-sighted all his life, but "not like other near-sighted people," seeing about equally badly for far and near, for, while he habitually held near objects very close to his eyes, like a high myope, he is unable even then to obtain satisfactory sight, e. g., he could not read the larger newspaper type; at the same time distant vision was not nearly so poor as was to have been anticipated from his manner of holding near work.

Quantitative examination gave the following results:

R.=12/100. L.=12/100.

Reads the 2 m. near type at about two inches from the eyes.

He was employed as a general utility man about a country establishment, the only kind of work his impaired vision enabled him to perform. He did not complain of pain in the head nor eyes, nor of any symptoms of asthenopia. His parents and subsequently he himself had consulted opticians and oculists with a view to securing improvement by glasses, if possible. He was informed that he was near and "weak" sighted; the glasses he received gave little or no improvement.

When I saw him he was wearing:

+2 cyl., ax. 90 R. and L.

Externally the eyes presented nothing noteworthy, with the possible exception of rather large pupils, which, however, reacted to light and convergence; the external muscles were in good balance—slight exophoria was present—the media were clear; the details of the fundus could not be distinctly seen with any spherical lens. It was evident that myopic astigmatism was a dominant factor in the refraction, but there was evidently a high degree of irregularity also present. The shadow test showed that this was the case, and in the midst of the broken and irregular reflex a zone came out distinctly showing the bands and movements of mixed astigmatism as follows:

R. = +2 = −20 cyl., ax. 15°.
L. = +2 = −20 cyl., ax. 178°.

With these lenses his vision was:

R.=12/30. L.=12/40

with near vision to correspond. This correction was prescribe and he has worn it constantly with comfort and satisfaction With the correction before the eyes the fundi were seen quit clearly; nothing of special interest was noted, beyond a rather extensive circular area of choroidal atrophy around the disc, extending somewhat irregularly outward. The measurement was made under homatropin mydriasis.

I have examined the man several times at intervals of about a year since giving him his correction, but have detected no material change in his refraction. He has worn the original lenses constantly since they were first prescribed.

DISCUSSION ON PAPERS OF DRS. RISLEY, JACKSON, CLARK, WÜRDEMANN AND SCHNEIDEMAN.

Dr. W. H. Wilder, Chicago—In regard to the peculiar asthenopia that occurs in certain of these cases of anisometropia, and also in certain cases of astigmatism I wish to note that in some of them there is observed a peculiar and interesting change in the retina. Unfortunately, I did not arrive in time to hear all of Dr. Risley's paper and I dare say he alluded to this condition. My attention was first called to the changes in the neighborhood of the yellow spot, by Mr. Nettleship, and in some of them you will find, by very careful focusing, a peculiar granular change about the macula lutea, with possibly some degree of congestion of the vessels to the temporal side of the disc. It would seem, in some cases, almost as if a coat was forming. It is not sufficient to be called a granular appearance, but is rather a pepper and salt appearance, and it may be found in some where the astigmatism is so low as to be supposed not to be a prominent and active factor in the case. As far as my experience with anisometropia is concerned. I have observed, in quite a number, that if the patient has courage enough he will be able to wear a full correcting glass and overcome the difficulties that Dr. Jackson mentioned, such as seeing things distorted, "walking up hill," etc. I had a man under observation at one time, to whom I gave a full correction of a high degree of astigmatism, and he came back saying he had to hold on to the rail of the bridge as he attempted to cross the Chicago River, because everything seemed to rise up at an angle of 45 degrees. If the atropin mydriasis be kept up for a considerable time, or if the patient persist he can adapt himself to the new relations.

As for high degrees of myopia, I have been surprised at the small opportunities I have had of observing cases suitable for this operation. I have a large clinical experience and have had for perhaps eight or ten years, and yet I have seen but few cases, perhaps eight or ten, that would have been suitable for the operation. The dangers seems to overbalance the advantages, and I doubt if it has as large a field of usefulness as has been supposed.

Dr. F. T. Rogers, Providence, R. I.—I wish to emphasize but one point in Dr. Jackson's paper, and that is the plea for an attempt to correct these high degrees of anisometropia. If one seek for information in the text-books he will find it stated that these cases are not susceptible of relief by glasses. Landolt says that in the vast majority of cases our results will be nothing. It seems to me that if a man has a correct understanding of the laws governing these cases, and a knowledge of the relation between convergence and accommodation, he is not doing his whole duty by the patient without at least making an attempt to correct these errors. As Dr. Jackson said, frequent trials may have to be made before a successful result is obtained. If we tell the patient that he has a bad eye and no glass can be worn with comfort he will likely go elsewhere to seek a glass that does give relief. I can recall numerous cases seen within the last nine years, where great comfort has been derived from wearing glasses of great difference. In one case there was a —2 cylinder in the horizontal meridian of one eye and +5 cylinder vertical in the other. This man had been arrested on the street several times on the charge of drunkenness, because he was unable to walk steadily. By wearing his glasses he could walk with perfect steadiness. In another case, a child of 12 years had worn, for two years, a +2 for one and +12 for the other, and my experience has taught me that children do not wear glasses by preference, and if they keep them on it is because they give comfort. I wish simply to emphasize the point that each case should be a law unto itself, and we do a wrong to our patients and an injustice to ourselves if we allow them to go without an attempt to correct such errors.

Dr. George M. Gould, Philadelphia—I wish simply to give a word of commendation to what Dr. Rogers has said, and to add that there is nothing more atrocious than the advice given in the text-books, that corresponds to the reference quoted from Landolt. Every case of anisometropia may be corrected; I do not think I have ever yet failed to secure glasses in such cases that were satisfactory and that made both eyes participate in vision. The question goes back not only to the first effect of the glasses, but to several apparently minor and yet really major considerations. In many cases of anisometropia one will need to modify the single eye correction by the findings made with both eyes open. It is a strange fact that a highly amblyopic eye, even with both eyes fixing, will detect a slight turn or change in the axis in an astigmatic glass. By testing the axis of the amblyopic eye while both eyes are functional, one will find that the bad eye detects almost any inaccuracy of axis or strength of lens at once. By this means, slight changes may be required from what one has found by examining each eye alone, and in this way one may avoid some of these distortions complained of. I remember one patient who was greatly tormented by the distortion of objects with the best glasses I could give him. With both eyes open I twisted one axis a little and immediately the objects straightened up. A considerable help may be gained by the use of this method. Indeed, I am not sure that all tests may not be more accurately made with both eyes uncovered.

The very best prescription, moreover, filled by the best optician, may not correct the astigmatic error when mounted in the spectacle frames. I instruct all my opticians to fit glasses perfectly, and then to try them in place by merely twisting each lens separately, a little upward or downward, to see if there is any improvement by a slight change of axis. Another point is the closeness of the glass to the eye. In these cases with distortion I have secured good results by trimming the lashes and setting the glasses as close to the cornea as possible.

Dr. G. C. Savage, Nashville, Tenn.—More than ten years ago my friend, Dr. Lippincott, first pointed out the distortion of retinal images. A little later on I published an article, thinking I was the first to point this out, but, in spite of the fact that Dr. Lippincott explained it so clearly in 1889, at the meeting in San Francisco it was almost the unanimous opinion that there was no distortion of images in oblique astigmatism. The question of anisometropia so far as oblique astigmatism is concerned is one easy to master. There is now no question, in the first place, but that there is a distortion and there is a definite strain that falls largely on the oblique muscles. Astigmatism unequal and oblique, ought to be corrected, but it should be done in a way attended by the most comfort to the patient, and you ought to tell him beforehand the experiences through which he must pass. It is to the credit of Lippincott that he devised the means of carrying the patient through those troublous times, that is, to give a part correction to-day and in a month or so make a change, until you gradually arrive at a full correction. The patients bear the slight change very nicely and, step by step, one gets the patient up to full correction without much annoyance.

Another method of doing this is a method which I take credit for myself, that is, by slightly turning the axis of the cylinders in the proper direction, which can easily be determined, so as to partly straighten the images and at intervals returning it to the right point until the vision is gradually freed from the distortions. It is the power of every man to tell the patient beforehand just what discomfort he will have. If he has an oblique astigmatism with the axis diverging above, we know that the patient is going to have to "climb hills," and to see the wall leaning from him at the top, and we know that when he takes a book in his hand it will appear broader at the bottom than at the top, and further we can say to that patient that in a short while, within a week, all the trouble will pass away. Suppose the meridians converge above, you give the full correction and the patient has the opposite condition of things—the wall will lean toward him at the top, and the top of the book will appear broader than the bottom. You must say then that it will require some time to get accustomed to lenses and that he will probably not get over the distortion in a month or two unless you adopt the plan suggested by Lippincott, or rotate the cylinders as I have suggested.

Dr. A. A. Hubbell, Buffalo, N. Y.—I have been deeply interested in Dr. Jackson's paper, and in the main I agree with him; but for many years I have corrected anisometropia with greater successes in young people and the younger the patient the more readily would a full correction be accepted. The consciousness of the individual is such that as years go on it does not yield readily to a change; it has become accustomed to certain retinal impressions and, when a change in them is produced in a person past 40 or 50 years of age, that person will, many times, repel any effort we may make to equalize the visual acuteness in both eyes. We can, therefore, with greater confidence correct anisometropia in the young than in older persons.

In regard to the distortion of images, Dr. Savage is, in the main, correct; but I do not believe that he is correct in attributing all of the metamorphosis to the action of the oblique muscles. The shape of the retinal image is changed when cylinders are placed before the eye, but such change can not possibly be produced by the action of the oblique muscles. Cylinders may be gradually increased in strength until the desired correction is reached, as Dr. Lippincott and Dr. Savage suggest, but the consciousness must be educated, so to speak, to the new impressions.

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* The papers of Drs. Jackson and Clark appeared in the Journal of December 2. An abstract of Dr. Risley's paper, which was published elsewhere in full, was printed in the Journal of October 7, '99, p. 904.

With regard to astigmatism after cataract operations, we all believe that the astigmatism is produced by the sliding of the flap; most of us are doing the flap operation, and, therefore, get astigmatism against the rule. I have in some instances attempted to avoid this sliding by using a narrow Graefe knife and making a shoulder for the flap by turning the knife a little forward as I finish the section. I have found that this lessens the amount of astigmatism. One of the main factors in the production of astigmatism is the pressure exerted on the eyeball, either by the dressings or by contraction of the orbicular muscle, and this should be avoided as much as possible. Furthermore, if the cut heals rapidly, we do not get as much sliding as when it heals slowly.

Dr. A. B. Hale, Chicago—What appendicitis is to the surgeon, myopia must be to the ophthalmologist. We Americans do not have the opportunity the Germans have to study this condition, and even they are not by any means decided as to the best way to treat myopia. Perhaps I see more cases of myopia than most of you, because my clientèle is composed largely of Russian Jews, and I am therefore particularly interested in its treatment. I have operated in half a dozen cases, and while that is not many, it teaches me some points. I have been able to answer some questions which I had considered before I tried to operate. The first is, what to do after discission. Shall one wait for absorption to take place, repeating the discission from time to time, or shall the cortical matter be released as soon as the eye is quiet? In one case I allowed absorption to go on to completion, but, though the results were very good, they were not satisfactory to me because the patient had to remain in the hospial for a long time and there was considerable irritation. I see no reason why the lens should not be removed as soon as the first irritation is over.

The second question was what to do when I did get an irritative process. I shall hereafter always do an iridectomy. In one case I did not. The eye was quiet for a few days, then the old disturbance came back, after relieving the lens matter, and the man's vision was not any better after the operation than before.

The third question concerns the disposition of the capsule. I have found that it is not the same capsule that one meets with after a cataract operation. I have not answered that question yet.

In cases of anisometropia I have a series of fifty cases that I am studying by the stereoscope, and I find that practice with it gives good results, satisfactory both to the patient and to the physician. Asking Dr. Savage's pardon, I want to say that the question of oblique astigmatism and anisometropia are two different questions and can not be discussed in the same way.

In regard to the operative treatment of astigmatism I wish to call attention to an article by Mr. Carter. He made an incision in the faulty meridian and reduced the astigmatism from 5 D. to .5 D.

Dr. E. J. Bernstein, Baltimore, Md.—I am glad to find such a universal approval of a method I have been advocating ever since I began to practice, that is, the giving of full correction, but doing it gradually. It struck me that it was the only rational thing to do, and I have had nearly all my patients finally accept the full correction. I have had a number of patients consult me regarding their sight in supposed amblyopic eyes. Several were adults who had never made use of the one eye and had been told, by reputable oculists that nothing could be done for that eye. Yet by proper correction of their *static* or total refraction, and by gradually conducting them up to the acceptance of such glasses, I have brought about binocular vision and normal vision in such bad eyes. There was only one case in which I made a failure, and that was where, in an unguarded moment, I told the patient that I had given him a partial correction and that after he had worn it for a month or two I would make a change. He insisted that he could stand it at once, and I had to give it to him, with the result that he soon rejected the glasses. I have made my patients use a stereoscope, as recommended by Landolt of Paris, when they have any degree of anisometropia.

Dr. J. A. Lippincott, Pittsburg, Pa.—Dr. Jackson has covered the ground so well, as in fact he uniformly does, that I find it necessary to refer only to the principal points he spoke of, one of which is the division into two instead of three classes on the ground that cases in which the vision is suppressed in *one eye* do not come under the category of anisometropia. In regard to the practical points he made, I agree with him in the main. The fact is that the subject is such a large one that it is difficult to decide where to begin. If I had time I would like to speak of the general subject of stereoscopic vision, especially with regard to some facts which are detailed in a paper I published ten years ago. However, I will content myself with emphasizing one point, that is, that metamorphopsia is produced not only by cylindrical but also by spherical lenses, for it depends on the difference in the images and the convergence of the optic axes. As to the leaning of the axes when the two eyes are tested together, there is no doubt they should be so tested, but my experience is that the axis very rarely varies in binocular vision from the position it occupies in single vision. To change the axis simply to do away with the metamorphopsia is wrong in principle and bad in practice. We should instruct the patient to persist in wearing his glasses, assuring him that the distortion of images will gradually disappear.

Dr. Leartus Connor, Detroit, Mich.—One point has not been mentioned, yet I have no doubt all the gentlemen make use of it, viz., when the patient is going through this difficult experience send him off on a hunting or pleasure trip and when he comes back he will use the glasses. Dr. Risley's paper showing that the proper correction of the refractive error resulted in the removal of all the muscular error is important. All of us have seen operations done early in such cases, and afterward such steps had to be retraced. I can see that in an eye that was very defective its correction would help the other eye. That has been my observation and I have found it of great practical value to correct that as well as the better seeing one. One other point he made in connection with the work on very young children is extremely important. I am sure those of you who have watched such work have seen the eyes grow better and at times become nearly emmetropic. Too much emphasis can not be placed on the importance of this fact to the welfare of future generations.

Dr. Frank Allport, Chicago—Several have spoken of the weight of the heavy lenses, and I desire to remind the Section of a useful device in the little films that the opticians call lenticulars, similar to what we see in the binoculars, except that they are round and are simply stuck on the center of a plane glass.

I am sure that I have the profoundest respect for anything Dr. Gould may say and I do not speak in a spirit of criticism about his method of changing the axis of the glass when examining with both eyes open, but I can not see why this should be done. The axis of the astigmatism must be the same whether one eye is open or both and as Dr. Gould will not have the opportunity to answer my question I hope Dr. Jackson, in closing the discussion, will explain it. I have no doubt it is true, if Dr. Gould says so, but I want to know why.

Our Philadelphia friends are expert refractionists but I can not quite get up to their exactitude in the full corecction of hypermetropia, neither can I quite bring myself to the point of fully correcting these cases of anisometropia. I approach it as nearly as possible, but find myself unable as a rule to correct both eyes fully and give glasses that are satisfactory to the patient, and of course that is what we have to aim at. The same may be said of very high degrees of myopia.

Dr. Young—In speaking of post-operative astigmatism last year, at Denver, I called attention to some observations I had made to this effect, that in examining patients with incipient cataract I had been surprised at the number of cases of astigmatism against the rule which I had observed, and the question occurred to me whether astigmatism against the rule predisposed to cataract or whether it was a part of the cataractous process already begun. It may be that that would have some bearing on post-operative astigmatism. The highest degree I have had is 7 D., and in that case I secured 20/20 vision and Jaeger No. 1.

Dr. L. J. Lautenbach, Philadelphia—The discussion seems to indicate the need of carefully studying the curvatures of the cornea by means of the ophthalmometer. In Dr. Risley's first case he absolutely proves that he was, by means of mydriatics, able to bring about results that other men are endeavoring to perform by means that must always fail; I do not think that a muscle operation would avail in such a case. Changes of the cornea and in its curvatures do undoubtedly occur, and are due to the action of the muscles enclosing the ball, and the lids. The condition that predisposes to it is anything that interferes with the nutrition of the cornea. In a paper presented to the Section three or four years ago, these were the lines I laid down as governing the corneal curvatures. I take the ground that if these corneal curves are carefully studied and corrected, and if invariably the astigmatism is all corrected, operations on the muscles will be very few indeed.

With reference to Dr. Schneidemann's paper, I recall a case in which an astigmatism of 10 D. was reduced to 4.5 D. By full correction you put the eye in such a condition that the reflexes are lessened and the nerve and blood supply are restored more nearly to their normal condition.

Dr. Miller—I was very much interested in what Dr. Risley had to say about correcting muscle balance by proper glasses. Dr. Payne wrote an article that has always been of great value to me in this connection. He would always keep the eyes under atropin until the muscles were thoroughly paralyzed and then, correcting all the errors possible, left the same amount of ametropia uncorrected in each eye, thus balancing the muscles. This has served me very well in all cases of ametropia.

Dr. Tenney—I recall a case of a woodturner who had four diopters of hypermetropia and one of hypermetropic astigmatism with the axis vertical. He came back to me in a few days, saying that the wood he turned did not seem round, and yet he knew it was impossible to turn it without its being round; everything that was round looked oblong to him. This distortion was produced by the cylinder and in about ten days it disappeared.

Dr. S. D. Risley, Philadelphia—The papers presented in this symposium by my colleagues, and the remarks made in the discussion, have been so rich in suggestion that there is much difficulty in selecting points for special notice in closing. The statistics presented in Dr. Clark's paper are of great interest and importance as suggesting the need for an improved technic in the operation for the extraction of cataract and in the subsequent treatment. If the ultimate result can be modified or rendered less satisfactory, as measured by the acuity of vision through faulty technic even in successful cases, it should lead to a careful scrutiny of our methods. The grade of corneal astigmatism noted in the paper in Dr. Clark's experience, corresponds very closely with my own. It depends largely on the kind of section made in the cornea, and on the process of healing; tardy closing of the wound favoring the occurrence of high grades of astigmatism. Irregular or ragged sections of the cornea lead also to astigmatism, since such wounds do not permit the accurate coaptation of the edges of the wound. I believe that the section suggested by Mr. Teale, and described by Dr. Hubbell, should be placed in the category of irregular wounds, since the shoulder produced by turning the edge of the knife forward in completing the section rather favors the riding up of the anterior lip of the wound. Such a section must be made with a narrow knife, and perfectly smooth incisions can not be so readily made with such an instrument. I prefer a rather broad knife with which the section is made in the same plane from start to finish, in the limbus, and completed by making a small conjunctival flap. Such a wound shows no tendency to gap, and the conjunctival flap favors the rapid healing of the wound and prevents a faulty coaptation of the edges.

I was interested in the statistics of myopia presented in Dr. Würdemann's paper. I have taken occasion in my work on school hygiene to formulate the percentage of myopic eyes to all cases of refraction applying for treatment in Philadelphia, during twenty years, from 1874 to 1894. During the first six years there were 28.43 per cent. of myopia. In the succeeding period this percentage gradually fell to 16 per cent. At the same time *the degree of myopia* also fell 50 per cent. in cases of 7 D. or more. Nothing could afford stronger evidence of the value of the treatment and correction of the errors of refraction than these figures. The importance of the results they portray is manifest when we consider the dangers which cluster around the high degrees of myopia.

Closely allied to these considerations are the inquiries which underlie the removal by absorption or by the extraction of the lens in high myopia, as presented in the very interesting paper by Dr. Timberman.[1] Notwithstanding the admirable result he has reported, this Section of the Association should hesitate before it lends its unqualified sanction to this operation. The extraction of the lens is indicated only in the higher grades of the disease. I say "disease," thoughtfully, for we should never forget that these stretching eyeballs are critically diseased organs. There is in these eyes always present a chronic, progressing choroiditis which has impaired the nutrition of the ball and has already produced degenerataion of the vitreous body, which is fluid and usually well filled with floating opacities. Surgical interference in such an organ can be undertaken only at great peril. I have had the opportunity of witnessing several most unfortunate results from attempts to remove the lens in high myopia, so that until a more extended experience has demonstrated its relative safety, this Section should withhold its unqualified approval. The case is somewhat different in the very rare instances of high congenital myopia. In the meantime, fortunately, our modern methods of treatment are diminishing the number of cases of so-called malignant myopia.

As to the interesting fact brought out by Dr. Gould, concerning the change in the direction of the cylinder axis on examination with both eyes fixing, and about which Dr. Allport asks for an explanation, while it may be accounted for in various ways I believe it is usually due to a faulty binocular balance. We must all have observed the wavering of the corneal meridians during examination with the ophthalmometer. This will often disappear promptly, or the direction of asymmetric meridians will be changed, if one eye is bandaged. I believe that this can be explained by the faulty attachment of the ocular muscles to the globe. For example, we can conceive of a vertically acting muscle being attached too far to the outer or inner side of the vertical meridian of the cornea, or that the internus is inserted too high or too low, a condition of affairs which must disturb the direction of the corneal meridians, and it is quite conceivable that with both eyes open they would assume that direction which experience had taught to be the least annoying for binocular vision, and which might be quite different from that assumed with one eye excluded from participation in the visual act.

Dr. Edward Jackson, Denver, Colo.—I only wish to take up two points; one is with reference to the distortion of the images in oblique astigmatism, or the same distortion in any astigmatism, for the distortion of the image is the same, except that in oblique astigmatism the direction of greatest distortion is such that it interferes with the vertical and horizontal lines that are more frequently the subject of our attention. There can be no doubt that this distortion does occur, especially if the astigmatism is situated in the cornea. The difference in the two curves of the cornea makes a difference in the position of the nodal points; that is we have a different nodal point for each principal meridian, and therefore one gives a larger image than the other. The correction of the astigmatism by a lens causes a much greater distortion in the other direction, because we have not only a difference in the curve but the lens is situated farther away from the nodal point and hence affects this more. The distortion produced by the cylindrical lens more than overbalances, and leaves a greater distortion than there was originally caused in the eye. But the amount of distortion is a very small matter; it is not the important factor in this trouble. The important feature is that an image is given to which the eye is not accustomed, and the eye must learn to see with this and the ability to learn is in inverse proportion to the patient's age.

The second point is that referred to by Dr. Gould, and for which Dr. Risley has already given a probable explanation. Another explanation occurs to me in this way: Put a convex lens at some distance from the eye and a concave one closer to the eye. You can thus double the size of the image for one eye, and still fuse the images of the two. I think perhaps we have in the disturbed shape of the image by the cylinder a very delicate test of the direction of the cylinder, but we can not use it until we have the two images to compare, when, by a slight twisting of the cylinder from its proper direction, it will be shown that the two eyes open can at once detect the change in shape of the images.

Dr. C. F. Clark, Columbus, Ohio—Dr. Hubbell spoke of pressure affecting the amount of astigmatism. My dressing for cataract cases has always consisted of gauze covered by cotton with strips of isinglass plaster and the Ring mask. The question of section is of great importance, and in my paper I have emphasized the point that we do not make our section to prevent astigmatism, but to avoid prolapse of the iris, which is more important. I have supposed that the nearer I approached the periphery, at the summit of the section, the greater the danger of prolapse, and I have adopted the plan of turning my knife forward when within 2 mm. of the superior border, so as to come out in a line perpendicular to the corneal surface.

Dr. Andrew Timberman, Columbus, Ohio—I have been very much interested in the position taken by the members of this Section on the question of the surgical treatment of high myopia, and rather surprised by the advice Dr. Risley gave us a few moments ago. If I had a case of progressive myopia that was doing badly in spite of my efforts to retard it by the usual means, I should desire the privilege of resorting to surgical procedures; if one or both of my own eyes were so affected, or the myopia so high that correcting lenses gave only very imperfect vision with troublesome asthenopia, I should want the operation done, and would be quite willing, in the light shed by a review of von Hippel's 114 cases, to take in exchange the probabilities of such a course for those of non-operative treatment. I think experience is teaching us that these eyes are in no greater danger than are those not so treated. If we take one thousand highly myopic eyes, just as many accidents may attend them as the same number operated on, provided the operations are done skillfully and with due regard to the proper technic.

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[1] Journal, November 4, p. 1128.

If the eye shows irritation, a few days after discission has been made, and tension is increased, the lenticular masses should be removed, for they act as foreign bodies, and if large enough, hinder drainage from the anterior chamber. Their removal is therefore the proper thing to prevent simple glaucoma. The increase in visual acuity is due not alone to the increased size of the retinal images, but as well to the fact that these eyes, being amblyopic, have not developed their function, and with no lenses whatever they will become very much more useful. I saw Prof. v. Hippel operate on not a few cases, and never saw him do any iridectomy as part of the operation. One thing is determined, that the degree of myopia is not the crucial indication for the operation. The question is not merely one of sixteen or even twenty diopters of myopia; but rather whether such patients have progressive myopia, with troublesome asthenopia, and, even when glasses are worn, very poor vision.

Dr. H. V. Würdemann, Milwaukee, Wis.—It is generally recognized that those cases of anisometropia on which experts have worked and failed have occurred in persons mentally exhausted or the subjects of nervous imbalance. The brain cells certainly learn to fuse images of different sizes, shapes and even different positions in the binocular field, especially in the young. I have within the last few years been observing a child with traumatic cataract, where I needled the lens after the blind eye had diverged. After the operation had been completed and the sight restored, there was diplopia, which was extremely annoying, accompanied by vertigo. I performed advancement and tenotomy, with the result that the more nearly normal eye, having a refraction of +1.25, and hyperopia of the other eye of more than 11 D., gave binocular vision.

We Americans certainly measure the refraction of the eye more closely, and have done more toward the study of it, than those abroad. It is not alone the opticians that are deficient; the fault often lies in the prescriptions themselves. Look at the record of von Hippel's cases; high myopia—any amount of it, but no mention of the astigmatism that certainly must have been present in many of those cases. As regards the removal of the lens for high myopia, it must be rare. The best results are obtained by removal of the cortex shortly after the discission. It is not necessary to do an iridectomy, and all those who have had much experience advise against it. There are many dangers connected with this operation; we may have less experience than the operators abroad yet we must consider that of those cases reported they have had 2.2 per cent. of loss by infection and 3.3 per cent. by detachment; but it is true that in cases of high myopia, 12 D. or more, there is nevertheless a loss of about 5 per cent. by detachment.

Therapeutics.

Treatment of Influenza.

Such an authority as Dr. J. F. Goodhart says, in Clifford Allbutt's "System of Medicine," that there is no specific yet at hand for this disease. This is quite certain from the number of drugs that have been regarded as almost infallible by one observer and another. All are agreed, however, that mildness of attack and speedy recovery are best insured by taking at once to bed, and that it is the worst folly to struggle on with work and to attempt to fight the disease—a plan that, although some came through successfully, was nevertheless the cause of the loss of many lives.

To go to bed, to take plenty of light liquid nourishment and some liquor ammoniæ acetatis every few hours, was sufficient in most cases to induce a quick recovery. Other remedies largely in request were salicylate of soda in ten-grain doses every three or four hours, antipyrin, alone or combined with the former, phenacetin and quinin. Upon a review of the whole epidemic, there appears in these drugs nothing of a specific action and in the control that these drugs have over the temperature they were productive of relief, and made for the return of health. For the rest it is necessary to combat symptoms as may seem best: the cough perhaps most readily with opium in some form, the aches and pains perhaps in a similar manner; and for the lasting after effects some of the many good nerve tonics, and the judicious use of alcohol, have been upon the whole the most successful.

We freely agree with Dr. Goodhart that there is no specific for influenza; there can be found throughout the extensive literature on the subject various prescriptions and valuable suggestions for treating the malady, cited by eminent authorities, to some of which the reader's attention is called.

Heming believes that salipyrin is the best remedy, and suggests the following formula:

R.	Salipyrin	ʒiss
	Glycerin	ʒiiiss
	Syrupi, rub. idæi	℥i
	Aquæ dest.	℥iss

M. Sig. Shake well, and give a tablespoonful every fifteen or thirty minutes.

The catarrhal element of influenza is very constant, says J. E. Atkinson, in the "American Text-Book of Applied Therapeutics," and he adds: catarrh of the nasal, buccal, pharyngeal, and laryngeal mucous membranes in most cases requires no special attention. The supraorbital pain so often resulting from catarrh extending to the frontal sinus, it is said, may promptly be relieved by pencilling the nasal mucous membrane with a 5 or a 10 per cent. solution of cocain. For actual catarrhal pharyngitis, gargles, sprays, and washes containing borax, boric acid, potassium chlorate, etc., are more useful; for example:

℞.	Acidi carbolici	gr. xii
	Sodii boratis	ʒii
	Sodii bicarbonatis	ʒi
	Glycerini	℥ss
	Aquæ rosæ, q.s., ad	℥viii

M. Sig. Use as a gargle, spray, or wash.

The bronchial catarrh—which, however, may be absent—demands simple treatment medicinally. As a rule, cough-syrups are inadvisable, as they tend to nauseate and to increase anorexia. A simple syrup that may prove useful is the following:

℞.	Morphinæ sulphatis	gr. ss
	Syrupi scillæ	ʒii
	Syrupi lactucarii	℥ss
	Aquæ	ʒvi

M. Sig. A teaspoonful every second, third, or fourth hour.

If nausea be present and cough troublesome, but the bronchitis not severe, the following combination is often effective.

℞.	Morphinæ sulphatis	gr. ss
	Acidi hydrocyanici dil	m. viii
	Spts. chloroformi	ʒiss
	Aquæ menthæ virid. ad	℥iss

M. Sig. A teaspoonful every third or fourth hour.

When bronchitis is pronounced, more stimulating agents will be required. Ammonium chlorid in varying combination will act with much advantage, thus:

℞.	Ammonii chloridi	ʒi
	Mist. glycyrrhizæ comp	℥vi

M. Sig. A tablespoonful every third or fourth hour.

Counterirritation should always be practiced. Sinapisms applied over many areas are useful, but the best results are afforded by turpentin, applied as stupes, or warm on flannel. Blistering can hardly be required. In most cases of influenza the bronchitis is mild and does not involve the smallest bronchial tubes.

As the symptoms of influenza subside and the patient passes into convalescence, very deep depression and prostration of both body and mind, often persist for a long time. Vigorous tonic treatment, medicinal, hygienic, and moral, will then be required. Protracted abstention from business and a change of scene may be necessary, and complete restitution is often long deferred.

Wood and Fitz recommend the following to reduce the fever and bring about free perspiration:

℞.	Antipyrin	gr. xv
	Pilocarpinæ hydrochlor	gr. ss
	Tinct. aconiti	gtt. viii
	Aquæ	ʒiss

M. Sig. One tablespoonful followed by a general hot bath or a foot bath of ten minutes duration, the patient being covered warmly in the bed; one dessertspoonful of hot toddy, repeated in twenty minutes if sweating has not occurred. (The editor is of the opinion that the amount of pilocarpin here given is unsafe.) These gentlemen also recommend the following as a remedy in la grippe:

R. Spiritus camphoræ.......... ℥ss
Olei caryophylli.......... m. xxx
Chloroformi.......... ʒiii
Tr. opii deod.......... ʒii
Tr. capsici.......... ʒii

M. Sig. Thirty to forty drops in water every hour or two.

In the gastrointestinal forms, very restricted diet (boiled milk), counterirritation over the abdomen (spice plaster):

℞. Sodii sulphitis.......... ℥iv
Aquæ.......... ℥vi

M. Sig. A teaspoonful in as much water every two hours till all pain is relieved and the patient is well.—*Monell.*

When the influenza is attended with mental and physical depressions:

R. Spiritus camphoræ
Tinct. lavandulæ comp., āā.......... ʒii
Spiritus chloroformi.......... ʒi
Mucilag. tragacanth.......... ℥i
Aquæ dest.......... ℥iii

M. Sig. Tablespoonful every four hours.—*Devereaux.*

When muscular symptoms are pronounced Dr. B. M. Smith recommends:

℞. Sodii benzoatis.......... ʒii
Salol.......... ʒi
Phenacetin.......... gr. xxxvi

M. ft. chart No. xii. Sig. One every four hours.

L. F. Donahue suggests for the several neuralgic and muscular pains, headache, etc.:

R. Caffeinæ citratis.......... gr. viii
Acetanilid
Lactopeptin, āā.......... ʒi

M. et div. in chart. No. viii. Sig. One every three hours.

In pronounced catarrhal and inflammatory symptoms Huchard prescribes the following:

Pulv. ipecac et opii
Pulv. scillæ
Quininæ sulphatis, āā.......... gr. xxx

M. For twenty powders. Sig. Four or five to be taken daily.

The following prescription was recommended by Morell MacKenzie:

R. Potassii nitratis.......... ʒi
Spt. etheris nitrosi.......... ʒiv
Liq. ammon. acet.......... ʒiss
Aquæ, q.s., ad.......... ℥vi

M. Sig. One half ounce with one ounce of water every four hours.

Pepper was partial to the following prescription

℞. Quininæ sulphatis.......... ʒi
Pulv. digitalis
Pulv. scillæ, āā.......... gr. xx
Etracti opii.......... gr. v
Extracti glycyrrhizæ, q. s.

M. et ft. pil. No. xxx. Sig. Take a pill four times daily.

H. C. Wood suggests the following in an uncomplicated case:

R. Pilocarpinæ hydrochloratis.......... gr. ss
Morphinæ sulphatis.......... gr. 1/3
Aquæ.......... ʒiii

M. Sig. ʒi every fifteen minutes till diaphoresis. Follow this treatment with quinin.

The editor is of the opinion that in nearly every case of influenza, strychnin in full doses should be given. Free elimination by the skin, kidneys and bowels is indicated, but tonic and supportive treatment should not be neglected. La grippe assumes so many phases that the treatment must necessarily be largely symptomatic.

Ipecac in Metrorrhagia.

The fact that small doses of ipecac have a favorable influence in arresting and preventing hemoptysis, induced Onimus to apply the same treatment to metrorrhagia, and he recently announced at the Paris Soc. de Biologie that he had found it remarkably effective.

Strong Sublimate Solutions in Treatment of the Eyes.

E. Guttmann writes to the *Deutsche Med. Woch.*, November 2, recommending the instillation once a day of six to ten drops of a 3 per 1000 solution of sublimate on the inferior conjunctiva and conjunctival fold, avoiding the cornea as much as possible, the eyeball turned up. His experience with several thousand cases thus treated at Magnus' clinic has established its great efficacy in catarrhus muco-purulentus with severe symptoms—the mild forms do not require such energetic treatment. It is also very effective in trachoma, but treatment must be continued longer than in case of catarrh, and simple trachoma does not need it. It cures chronic gonorrheal dacryocystitis without the necessity of a sound, except in extremely old cases. The instillations smart for an hour or so, but not seriously unless the nerve terminals are exposed. The more intense the catarrhal symptoms the less subjective reaction and the more brilliant the results. No indications of intoxication have been observed in any case and the immediate dilution of the solution by the secretions of the eye, precludes the possibility of intoxication. The solution must always be ordered *sine spiritu*, and the instillations made by a physician, in whose hands they will prove as "harmless as they are effective."

Naftalan on Burns.

J. Petrasko has occasion to treat severe burns every day in the foundries, etc., of Nadrag, and states that he has been testing naftalan on seventy patients, comparing it with others treated simultaneously with the usual remedies. The patient treated with iodoform writhed in pain all night; No. 2, treated with zinc bismuth salve, complained of severe pain, while No. 3, with naftalan, rested free from pain. Petrasko makes a preliminary communication to the *Deutsche Med. Woch.*, endorsing naftalan for burns from melted iron, steam, boiling varnish, etc., as the "best of all dressings." "Its superior pain-soothing power would alone ensure it a prominent place, but it also has the advantage of cleanliness and convenience, prompt and effective deodorizing properties, absence of all sticking of bandages, etc., and the formation of fine smooth scars." His patients now all clamor for the "black salve."

Fixation and Supporting Corset for Pulmonary Phthisis.

F. Zenker of Hamburg suggested a year ago the application of the same principles of immobility, extension and support which have proved so wonderfully successful in surgical tuberculosis, to the treatment of the pulmonary variety. He quotes the Italians who have reduced the mortality of surgical tuberculosis from 50 to 5 per cent. by their orthopedic achievements, and asserts in the *Deutsche Med. Woch.* of November 2, that his corset answers the same purpose and promises equally brilliant results. The corset is supported by the back and by side arm rests, built up on the large bones of the pelvis, not encircling the thorax. The pelvis, thorax and pectoral arch thus form a solid whole; the only motions possible are in the axis of the hip points. The lungs are sustained in the correct position, all excursions of the spine prevented, and the technical construction of the corset with steel splints or leather or celluloid over the cast, is extremely simple.

Circular Electrolysis for Strictures of the Urethra.

H. Bordier announced, at the French Association for the Advancement of Science, that his research in regard to the tertiary effects of electrolysis applied to strictures of the urethra has established that besides the eschar formation induced by the direct action of the current, any varying in intensity with the strength and length of application, the tissues beneath the eschar are profoundly influenced by the indirect effect of the current: the dissemination of sodium throughout the adjacent tissues. The superiority of this method of treatment, its durable results and the absence of recurrence, are undoubtedly owing to this tertiary effect of the circular electrolysis. It is a very slow process, hence Bordier recommends an interval of a month between the sessions. (*Rev. Med.*, November 15.) Other advantages are the absence of hemorrhage and phlegmons, and the fact that treatment does not interfere with the usual occupations.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Journal of Obstetrics, November.

1.—*Rights of the Unborn: The Prevention of Conception. Edward J. Ill.
2.—*Present Position of Gall-Stone Surgery, with Report of Cases. William W. Seymour.
3.—*Ectopic Gestation: Shall the Case be Operated on at or Near Term, the Child Being Alive? L. H. Dunning.
4.—*Observations Respecting Symptoms and Treatment of Menopause. Augustus P. Clarke.
5.—*Hemorrhage and the Menopause. John Milton Duff.
6.—*Report of Four Additional Cases of Uterine Fibroids Complicating Pregnancy. M. Rosenwasser.
7.—*Two Cases of Dystocia Following Ventrofixation, One Requiring Cesarean Section. X. O. Werder.
8.—*Simple, Effective and Esthetic Operation for Shortening the Round Ligaments. H. W. Longyear.
9.—*Intestinal Adhesions in Suppurative Pelvic Disease; Their Significance after Vaginal Hystero-Salpingo-Oöphorectomy; with Report of Case of Ileus. F. Blume.
10.—*What Shall We Do With the Post-Operative Hemorrhage of Celiotomy? D. Tod Gilliam.
11.—*Three Rare Cases of Kidney Cysts J. F. Baldwin.
12.—*Retroperitoneal Tumors, with Report of Case and Presentation of Specimen. Rufus B. Hall.
13.—*One Form of Ovarian Disease Not Generally Recognized. Primary Sclerosis of the Ovary. William H. Humiston.
14.—*House-to-House Operating. Edwin Ricketts.
15.—*Hemostasis in the Tubo-Ovarian Pedicle. Thomas B. Eastman.
16.—*Technique of Abdominal Hysterectomy. J. H. Carstens.
17.— Postpartum Repair of Lacerations of the Cervix Uteri. Clinton Cushing.
18.—*Choice of Method for Total Hysterectomy, and Some Points of Technique. B. Sherwood-Dunn.
19.—*Treatment of Inertia and Subinvolution. Charles Stover.
20.—*Post-Operative Acute Toxic Hyperemia and Inflammation of Kidneys. F. F. Simpson.
21.— Suprapubic Cystotomy for the Removal of Large Encysted Calculus Containing a Hairpin. L. W. Swope.
22.— Abdominal versus Vaginal Section in the Treatment of Pelvic Disease. O. G. Pfaff.
23.— Nose a Factor in Post-Operative Disease. Report of Celiotomy followed by a Malignant Septicemia of Nasal Origin; Further Observations; Remarks. H. O. Pantzer.

Annals of Gynecology and Pediatry (N. Y.), November.

24.—*Study of 61 Cases of Appendicitis, 30 of Whom Were Operated On. Frank T. Meriwether.
25.—*Plea for Early Operation in Appendicitis. A. M. Haden.
26— Anatomic and Clinical Points in Ear of New-Born Infant. Arthur J. Shaw.
27.— Three Cases of Pneumonia with Marked Abdominal Symptoms in Children. John Lovett Morse.

Atlanta Journal-Record of Medicine, November.

28.— Report of Some Sarcomata of the Jaws. W. H. Hudson.
29.— Some of the Dangers of an Impure Meat and Milk Supply. W. H. Dalrymple.
30.— Advice to Gonorrheal Patients. W. L. Champion.
31.— General Consideration of Diseases of Ear, Nose and Throat. W. J. Cox.

Southern California Practitioner (Los Angeles), November.

32.— Opening Address. George E. Abbott.
33.— Some Features of the Bad-Nauheim Treatment No. 2. W. Jarvis Barlow.
34.—*Observations on Periodic Inebriety. P. C. Remondino.
35.—*Tuberculosis. Geo. L. Cole.

Inter-State Medical Journal (St. Louis, Mo.), November.

36.— Hepatic Complications of Typhoid Fever. R. B. H. Gradwohl.
37.— Otitis Media: Diagnosis and Treatment. M. A. Goldstein.
38.— Impotence. T. B. Busdraghi.
39.— Practice of Medicine in Porto Rico. John S. Browne.

Medical Herald (St. Joseph, Mo. , November.

40.—*Ichthyol in Treatment of Corneal Ulcers. B. F. Travis.
41.— Localities of Continued Fever and Prevention. Frank Cordle.
42.— Case of Multiple Sclerosis and One of Cerebral Palsy in a Child. Frank P. Norbury.
43.—*Abdominal Surgery with Special Reference to Work in Private Homes. C. Hamilton.
44.— The San Luis Valley. W. J. Bell.

Post-Graduate (N. Y.), November.

45.—*Rheumatoid Arthritis and Treatment by Electrostatic Currents and Sparks. William B. Snow.
46.— Public Appropriations to Private Institutions Wholly or Partly Under Private Control. Frank Van Fleet.
47.— Rectal Diseases. Samuel G. Gant.

Cleveland Medical Gazette, October.

48.—*Semeiology of the Attitude and Motor State in Children. Samuel W. Kelley.
49.— Headaches of a Sympathetic or Reflex Origin. Edward S. Lauder.
50.— Case of Tetanus Treated by the Baccelli Method of Hypodermatic Injection of Carbolic Acid in 2 per cent. Solution. D. S. Hanson.

Bulletin of Johns Hopkins Hospital (Baltimore, Md.), October.

51.— Growth and Regeneration of the Tail of the Frog Larvæ. Ross G. Harrison.
52.—*Endocarditis Due to a Minute Organism, Probably the Bacillus Influenza. Mabel F. Austin.

Georgia Journal of Medicine and Surgery (Savannah), November.

53.— Advice to Gonorrheal Patients. W. L. Champion.
54.—*Asphyxia Neonatorum; Prognosis and Treatment. C. H. Richardson.
55.— Gangrene of Testicles and Scrotum, with Perforation of Urethra; Operation; Recovery; Hydatid Pregnancy. T. Catlett Gibson.
56.— Apthou's Tonsillitis, or "Diphtheroid Sore Throat." Mark H. O'Daniel.
57.— Cold in the Treatment of Pneumonia. J. D. Herrman.
58.— Troublesome Affections of the Feet. Marcus F. Carson
59.—*Diagnosis of Typhoid Fever. William Osler.
60.—*New Portable Electric Outfit. G. M. Blech.

Richmond Journal of Practice, October.

61.—*Four Recent Cases of Gall-Stones, with Remarks. Hunter McGuire.
62.—*Examination of the Blood in Surgical Diseases. H. Stuart MacLean.

Therapeutic Gazette (Philadelphia), November 15.

63.—*On the Choice of Operation for Stone. John H. Brinton.
64.— What We Can Do For Cases of Squint. Edward Jackson.
65.—*Heroin in Cough. Chas. Herwisch.
66.— Some Therapeutic Measures Other than Medicaments. W. L. Johnson.
67.—*Some Clinical Experiments with Mercurol in Cases of Acute Gonorrhea. Frederick Fraley, Jr.
68.— Bilateral Chronic Intestinal Mastitis Cured by Operation. Edward Martin.

Occidental Medical Times (San Francisco, Cal.), November 15.

69.—*Collateral Considerations Relating to Appendicitis. Thomas W. Huntington.
70.— Preliminary Note on the Gastric Volumeter. Clarence Quinan.
71.—*Typhoid and Malarial Fever. Wm. Watt Kerr.
72.— Ligatures and Sutures, Their Preparation and Preference. Z. Taylor Malaby.
73.— Remarks on Clinical Picture and Its Relation to Post-Mortem Findings in Typhoid Fever. W. W. Cross.
74.— Treatment of Fractures Involving the Elbow-Joint. George H. Aiken.
75.— Report of Case of Agraphia. C. F. Griffin.

Annals of Ophthalmology, October.

76.—*An Analysis of Sixty-Three Eyes Affected with Chronic Glaucoma, with Special Reference to the Visual Field. G. E. de Schweinitz.
77.—*Nutrition of the Lens and Its Relation to Cataract Formation. Louis Stricker.
78.—*Excessive Myopia—Indications for Operation, and Results Which we may Reasonably Expect. Report of Case. Andrew Timberman.
79.—*Astigmatism After Cataract Extraction. C. F. Clark.
80.—*Case in Which Both Eyes Were Lost from Choroidal Hemorrhage Subsequent to Extraction of Senile Cataract. A. R. Baker.
81.— National Recognition of Eye Strain Reflexes. George M. Gould and Helen Murphy.
82.— The Dioptric Eye of Dr. Jackson. Carl Weiland.
83.— Misapprehensions Regarding the Dioptric Eye, and Its Uses. Edward Jackson.
84.— Use of Cocain in Measuring the Amount of Heterophoria. L. Guaita and L. Bardelli.

Merck's Archives (N. Y.), November.

85.—*Cause and Treatment of Typhoid Fever. J. T. Moore.
86.—*Poisoning by Sulphonal and Trional. Horatio C. Wood.
87.— Therapeutics in Continued Fevers. Samuel C. James.
88.— Clinical Use of Thyroid Extract. A. G. Servoss.
89.— Efficacy of Certain Remedies in Skin Diseases. C. H. Powell.

Medical Age (Detroit, Mich.), November 10.

90.—Concerning Malaria. W. Thornton Parker.
91.— Practical Points in the Treatment of Cystitis in Women. Charles Williams.

American Practitioner and News (Louisville, Ky.), October 15.

92.—*Cervical Tubular Adenitis. F C. Simpson.
93.— Listerism and Bacteria. W. Symington Brown.

Boston Medical and Surgical Journal, November 30.

95.—*Three Cases of Pyloroplasty for Stricture of Pylorus. Maurice H. Richardson.
96.— Hospital for Chronic Disease. E. W. Taylor.
97.—*Nutritive Value of Albumose Peptone. A. E. Austin.
98.— Case of Osteomyelitis of Femur. A Case of Kocher's Operation for Radical Cure of Hernia. F. B. Lund.

New York Medical Journal, November 25.

99.— Experimental Researches on Effects of Different Anesthetics on the Kidneys. Robert Coleman Kemp.
100.—*Report of Cases of Sudden Death from Pulmonary Embolism Following Injuries or Operations in Pelvic Region. George P. Biggs.
101.—*Pregnancy Complicated by Uterine Fibroids. Henry C. Coe.
102.—*Pemphigus Chronicus Vulgaris of Larynx and Mouth. J. H. Bryan.
103.— Dry Heat of High Degree as a Therapeutic Agent. C. E. Skinner.
104.—*Plea for Further Use of Carbolic Acid. Frederick J. Adams.
105.— Dermatitis Following Use of Orthoform. G. E. Decker.

New York Medical Journal, December 2.

106.—*Notes upon X-Rays and Injuries of the Head. J. Rudis-Jicinsky.
107.—*Vaccination. F. G. Attwood.
108.—*Further Experimental Researches on Effects of Different Anesthetics on the Kidneys. Robert Coleman Kemp.
109.—*New York Academy of Medicine's Discussion on Anesthetics. W. H. Thomson.
110.— Case of Hysterical Larynx. F. E. Hopkins.
111.—*Recurrence of Tonsil after Excision. F. E. Hopkins.
112.— Dry Heat of High Degree as a Therapeutic Agent. C. E. Skinner.

Medical News (N. Y.), December 2.

112.—*Hemostatic Use of Gelatin: With Report of a Case of Hemophilia Treated by Gelatin: with Recovery. J. B. Nichols.
113.—*Microbes and Cold. Felix Vitale.
114.—*Examination of Blood in Surgical Diseases. H. Stuart MacLean.
114½.-Loss of Intestine: Effect on Nutrition. J. R. Johns.

Cincinnati Lancet-Clinic, December 2.

115.—*Causes and Management of Slow First Stages of Labor. Wm. Gillespie.

Maryland Medical Journal (Baltimore), December 2.

116.— Necessity of Post-Operative Treatment of Clubfoot. R. T. Taylor.
117.—*Medical and Chirurgical Faculty's Contribution to Welfare of the State. Eugene F. Cordell.

Medical Record (N. Y.), December 2.

118.—*Formative Period of Uterine Fibroids. Grace Peckham Murray.
119.—*Can We Diagnosticate Obliteration of the Receptaculus Chyli? Andrew H. Smith.
120.—*Cause and Treatment of Recurring Laryngeal Stenosis Following Intubation. Louis Fischer.
121.—*Two Cases of Graves' Disease Successfully Treated as Intestinal Auto-Intoxications. Charles L. Minor.

AMERICAN.

1.—See abstract in JOURNAL, October 14, p. 979.

2. **Gall-Stone Surgery.**—The summary of Seymour's paper is as follows: 1. We have in Tait's operation of simple cholecystotomy with drainage of the bladder, the really ideal operation for gall-stones in most cases, removing, as it does, the stones, and draining infected bile canals, and leaving no sutures as a nidus for another crop of stones, as Kehr and Homans have experienced. 2. In incision of the common and cystic ducts is the safest and most surgical means of removing stones in them. The question of sutures or drainage of the duct must be decided by the future. 3. In view of the splendid results of incision of the ducts for obstructing stones, excision of the gall-bladder may find a wider field than heretofore. 4. McBurney has shown that incision of the duodenum and either dilatation or incision of the common duct through this incision is, in skilled hands, both efficient and safe for the removal of stones low down in the common duct. 5. In neglected cases with dense and many adhesions and dilated stomach, an additional gastro-enterostomy or pyloroplasty will save cases that would otherwise die. 6. The mortality of the simple cases is practically *nil*. Even in his twenty-seven cases he had but two deaths directly connected with the operation. In one, the patient, treated for weeks for cancer of the stomach and intensely jaundiced, died the fifth day, of cholemia; and in the second the cause of death was a dilated stomach in which a gastro-enterostomy would have given a vastly better chance. A third was convalescent from operation when seized by a fatal attack of la grippe two weeks after operation.

3.—See abstract in JOURNAL, September 30, p. 861.

4. **Symptoms and Treatment of Menopause.** Among the symptoms Clarke notes one, consisting of a marked exaltation of the faculties and exuberance of the imagination, which he considers as ominous. Undoubtedly the withdrawing of a large amount of blood from the sexual system causes a larger flow to the brain or central nerve organs, which may lead to undue strain and produce mischief. He also notices exceptions to Colles' law in which the mother showed syphilitic symptoms at the period of the menopause, which were quickly relieved by specific treatment. Other symptoms mentioned are the recurrence of hemorrhage after the period, which should arouse attention to the condition of the uterus; epistaxis; intestinal disorders: leucorrhea; mental irritability and hysteria; pleuritis and fibroid growths.

5.—See abstract in JOURNAL, October 21, p. 1043.

6.—Ibid.

7.—Ibid. October 7, p. 912.

8.—Ibid.

9.—Ibid. p. 913.

10.—Ibid, September 30, p. 862.

11.—Ibid, p. 860.

12.—Ibid, October 14, p. 980.

13.—Ibid, October 7, p. 913.

14.—Ibid, p. 912.

15. **Hemostasis in Tubo-Ovarian Pedicle.**—Eastman summarizes his paper as follows: 1. The silk suture is still used by many operators of ability. 2. A silk ligature of proper size has some advantages over catgut. 3. The silk ligature is the ligature for the beginner and infrequent operator. 4. Given an aseptic, strong catgut ligature it is perhaps the best for the skilled ligature tier. 5. The angiotribe represents a step in the right direction, but is not yet perfected. 6. The electrohemostat lacks but little of being an ideal hemostatic, and should come into use in the treatment of tubo-ovarian pedicle.

16.—See abstract in JOURNAL, October 21, p. 1044.

18.—Ibid, p. 1045.

19.—Ibid, p. 1044.

20. **Post-Operative Acute Toxic Hyperemia and Inflammation of Kidney.**—After noticing the literature of the subject Simpson offers the following as a general summary of the results in the last thousand patients subjected to major operations in the gynecologic department of Mercy Hospital, Pittsburg: 1. Post-operative acute hyperemia of the kidneys and nephritis are conditions that often exist, but seldom give rise to serious symptoms or permanent lesion. They occasionally cause both. 2. They are due to predisposing causes plus exposure during and after operation, and toxic agents such as anesthetic, ptomains, leucomains, etc. 3. Anesthetics are undoubtedly irritating to diseased kidneys, but often the condition requiring operation is such as to render a moderate kidney lesion a secondary matter. A hyperemia of the kidneys, and even a nephritis, is often relieved by appropriate operation, notwithstanding the effects of the anesthetic. 4. Anesthetics are also irritating to healthy kidneys, but in the vast majority of cases this effect is only recognized by a systematic study of the urine before and after operation. 5. The bacterial poisons met with after operation are in themselves usually irritating to the kidneys, and when their effects follow immediately on congestion resulting from the anesthetic, impaired function results. The toxins, along with the effete products, are retained. 6. The retained poisons give rise to their own definite train of symptoms, which differ widely from those usually met with in the ordinary forms of nephritis, and hence the absence of edema, coma, convulsions, and other classic symptoms. 7. This condition is analogous—with important differences—to the nephritis of the acute infectious fevers, in which the symptoms of the original disease are decidedly intensified with but a slight kidney lesion. 8. The practical lessons to be drawn are: *a*. To see that the emunctories are acting normally and to use every effort to promote their continued activity. *b*. To prevent undue exposure. *c*. To use the smallest possible quantity of anesthetic. *d*. To be absolutely clean in technic. *e*. To recognize the condition at once and institute prompt and energetic treatment. 9. This condition has a significance of its own, because it occasionally causes serious symptoms, which may be averted or promptly relieved if it is recognized at once and appropriate treatment instituted.

24. **Appendicitis.**—Meriwether reports and tabulates 30 cases of appendicitis operated on, and besides these he has medically treated 31 others. Of the later, 4 died, or 13 per cent., and he thinks that more deaths would be found were the cases followed up. Of the cases operated on, 3 died, or 10 per cent., all 3 under unfavorable conditions. Of the 30 cases 16 were females and 14 males. The average age was 23.4 years, the youngest 5, the oldest 55. It was difficult to obtain any history of previous attacks. In 10 concretions were found. In all the McBurney incision was used, and in most the appendix was inverted and buried with a purse-string and reinforced by Lembert sutures. He advocates the operation, not only to save life, but also to prevent suffering and loss of time from business. With all his endeavor to adopt a conservative standpoint, he feels compelled to believe that the only remedy for the condition is in surgery.

25. **Appendicitis.** Hayden, after reporting 3 cases to demonstrate the impossibility of determining the exact condition in all cases by the symptoms, urges the importance of early operation. He says: operate in all cases seen before perforation, however mild; in all cases seen after perforation, unless the symptoms lead to the belief that Nature has closed the leak or the patient is in such a state of collapse that he would be liable to succumb to the shock of the operation.

34. **Periodic Inebriety.**—From a study of many cases, Remondino concludes that periodic inebriety is a disease secondary to some physical or psychic defect, and that a radical change of occupation, climate or residence will often remove the cause and restore the patient to the normal condition. The

periodicity may at times be due to a diathetic condition analogous to that on which is grafted gout or rheumatism. Those that have hereditary tendencies are the worst and most unmanageable. In the majority of cases there is a tendency to self limitation of the disease at certain ages, it being worst during the period of greatest virility. Any physical condition that tends to disturb the nervous system may be injurious. When there is a sexual factor that affects celibates, marriage is beneficial. He says a racial proclivity exists to this form of disease among the blond races, due to ancestral habits, and he finds the variability of our American climate favorable to its development. He thinks that normal measures are useless with these cases when the environment is not changed. The disease is liable to end in habitual drunkenness. As regards treatment, occupations involving shock or strain should be avoided. The less exciting the life, the better. Malaria, bad air, irregularity of work or diet, or any blood deteriorating condition, overeating, constipation and so on, are all disastrous. For the above reasons, he says, bathing, exercise, regularity of work, added sleep, and for the bowels, a purge if depressed or feeling heavy, and a general strict observance of all hygienic laws are indispensable conditions to be observed by those who are disposed to the disorder under discussion. Emotional individuals should avoid any disturbances in their sentiments, as any access of grief or joy, etc. The victim of this diathetic disorder can not watch over himself too assiduously if he wishes to break up his predisposition.

35. **Tuberculosis.**—Cole discusses the spread of tuberculosis and its possible remedy. He does not believe in quarantine or notification, but thinks that individual instruction and organizations to spread information in regard to the disorder will be the right course.

40. **Ichthyol in Corneal Ulcer.**—Travis recommends the use of ichthyol for corneal ulcer, regardless of its cause. After operating with it in different strengths in a number of cases, he now uses a 30 per cent. solution, and weaker solutions for home use. It has no bad effects on healthy tissue, and while it is painful for about one minute this can be avoided to a great extent by the previous instillation of a 1 per cent. solution of holocain. He does not say that this is all that is to be done, but among all the local remedies it has given him the best results.

43.—See abstract in Journal, December 2, ¶ 114, p. 1413.

45. **Electricity in Rheumatoid Arthritis.**—The statement by Osler, that no benefit can be expected from electricity in this disease, is contradicted by Snow, who advises the use of static electricity by sparks and a wave current. He reports eight cases, and summarizes the results of his treatment as follows: 1. The patient is always relieved by the first, and greatly relieved by the first few treatments. 2. If the case is not of too long standing, the joints are not only made freely movable, but straightened, and Heberden nodes removed. 3. After a daily treatment from seven to ten days, a constantly increasing interval may intervene without return of symptoms. 4. During the course of treatment no extension of the processes will take place. 5. We believe, though experience is not long enough to affirm, that in a large number of cases a complete cure will result.

48. This paper appeared in the Journal, October 7.

52. **Endocarditis.**—In this preliminary report Austin gives three cases of endocarditis in which a small bacillus, usually straight but sometimes curved, staining solidly and at the poles, and both free and in the protoplasm of the cells, was found. The cultures attempted were unsuccessful. The morphology of the bacilli, their staining reaction and the difficulty of culture agree with the influenza bacillus, and the excessive abundance with which they were found on the heart valves leaves no question as to their causal connection with the morbid condition. The lack of cultures, however, leaves one link absent in the chain of proof that they are identical with the Pfeiffer bacillus.

54. **Asphyxia Neonatorum.**—Noticing first the different forms of asphyxia of the new born, congestive and anemic, and their special indications, Richardson describes his method of resuscitation. That which has given him most success is a modified form of those of Schultze and Dew. He has two vessels placed on the bed, containing one hot and the other cold water, and places the infant alternately in each, holding his thumbs on the thorax and his forefingers on the shoulders and arms, and as he presses the child downward into the vessel so as to throw the abdominal organs against the diaphragm, he presses with his thumbs upon the chest and raising the arms produces inspiration. Reversing the effort by placing the arms downward on a level with the body and slightly raising up the head, pressing also upon the sides of the thorax, he produces expiration. This is done while the child is in the water. The change of temperature itself produces a shock to the spinal accessory nerves which is transmitted to the medulla and respiratory center. He believes if this method was more generally practiced many lives would be saved.

59.—See abstract in Journal, November 4, p. 1165.

60.—This paper was printed in the Journal of February 25.

62. **Blood Examination in Surgical Disease.**—MacLean's paper, after noticing the microscopic examination of the red corpuscles and estimation of hemoglobin, as important in surgical conditions, especially as regards concealed hemorrhage, takes up the subject of leucocytosis, which is not confined to the inflamed area. Pathologic leucocytosis must be distinguished from digestive, which commences about an hour after eating, and that of pregnancy. It is well, therefore, to count the leucocytes before and after a meal. Physiologic leucocytosis is less marked than pathologic, rarely exceeding twelve or fourteen thousand. A few of the more prevalent and important diseases in which leucocytosis is found, are mentioned, such as abscess, appendicitis, pyosalpinx, osteomyelitis and shock. In tuberculosis, if uncomplicated, leucocytosis does not exist, and its absence here is diagnostic. Nervous shock is distinguished also by the absence of leucocytosis from that of hemorrhage. An important point is whether or not to use the transfusion. The paper is also noted in title 144.

63. **Choice of Operation for Stone.**—Brinton strongly favors the suprapubic method of operating for renal calculi, and states its advantages as follows: 1. The ease with which it can be performed. 2. Its thoroughness, affording as it does an easy extraction of calculus, and also the opportunity for full digital and ocular examination of the interior of the bladder. The encroachment on the bladder cavity of prostatic growths and other tumors can also be readily detected. If the operator so decides, these can be excised or removed. If a small calculus be hidden by a prostatic bar, or by any fold of mucous membrane, it can surely be felt and taken away. 3. In fact, the high lithotomy offers a great degree of thoroughness and operative certainty than any other method for the removal of stone from the bladder. 4. Good drainage can be effected if desired, an assured immunity from prostatic trouble can be obtained by keeping the cut opened and establishing an artificial urethra. 5. The constitutional involvement is but slight, and there is little danger of shock or septic poisoning, or other general accidents. 6. The convalescence is speedy and the after-cure satisfactory. 7. The operation is properly indicated at all ages of adult life and also, as shown by clinical experience, in boyhood before puberty. Perineal lithotomy is briefly noticed in conclusion, and he sums up with the following: "From the foregoing considerations it seems fair to conclude that litholapaxy is eminently the proper operation in the case of stone, either small, or soft or both; and where there is reason to believe that the bladder and associated urinary organs and prostate gland are not seriously diseased, and where, too, the general constitutional condition is fair. Where the contrary obtains, especially when the prostate gland is evidently largely involved in its middle lobe, and when the symptoms of urinary retention are marked by the presence of residual urine in greater or less quantities, the operation is not indicated. These symptoms, and particularly excessive vesical irritability and highly phosphatic and purulent urine, must lead one to suspect the presence of a small rough calculus concealed by an internal prostatic projection. In such cases it seems that the high operation is greatly to be preferred. And here it may be added that even in cases where litholapaxy seems proper, it is an operation for a trained and experienced specialist, rather than for the general surgeon. At all events the operator, whoever he may be, will do well to investigate for himself the mechanical conditions which accompany sudden bladder distension." He would thus decidedly limit the prac-

tice of litholapaxy, and turn rather to the suprapubic operation which will have a wider application in the future, far wider, perhaps, than in the past. It is, in fact, a procedure readily performed and devoid of great and sudden perils. As far as modern experience goes, it is free from that shock and that unexplained exhaustion which so often ambushes the operator by other methods. He has met with many who hesitate to adopt the suprapubic operation, but thinks this disinclination is a relic of the past. The suprapubic one is, he believes, the preferable, except for small and soft stones and under the circumstances above referred to.

65. **Heroin.**—Herwirsch reports a number of cases of cough, bronchial disease, phthisis, etc., in which he has given heroin with advantage. From these he deduces that the drug in the dose of from 1/12 to 1/6 grain three times a day is a very valuable addition to our remedies in acute and chronic bronchitis, and in the cough accompanying phthisis. It acts well in most cases; the number of respirations is diminished; no headache nor stomach disorders followed; except in one case he saw no tendency to constipate, and he saw no evidence of drug habits being established though he has given it for three months. The dose is much smaller than with either morphin or codein, and it is cheaper than the latter drug.

67. **Mercurol in Gonorrhea.**—After reporting 6 cases in detail, Fraley analyzes the result of the use of mercurol in 14; cured, 6 or 43 per cent., in less than four weeks; practically cured, 3 in three weeks; distinctly improved, 3 in sixteen days; only temporarily benefited, 2; discharge immediately stopped in forty-eight hours in 3; lessened considerably in 7. The best results were in cases of simple anterior urethritis and those of short duration, and also in those of very long duration where the disease had partially exhausted its virulence. He thinks that an unirritating remedy that has this record is one not to be despised.

69. **Appendicitis.**—Huntington became early impressed with the reasonableness of prompt operative interference in appendicitis and reports several cases observed and operated on by him. He states the following in conclusion: 1. Obscure gastric or enteric symptoms, such as habitual constipation and occasional abdominal pains, either localized or fugitive, should be given careful consideration before disease of the appendix can be excluded. 2. A diseased appendix is a serious menace to the patient aside from the possibility of ultimate explosion and infection. 3. Early operation in chronic appendicitis should be as strongly urged in the mild as in the more formidable cases. 4. Whenever the presence of adhesions has been detected during operation, thorough exploration of the general cavity should be made to avoid the necessity of a secondary operation for their relief.

71.—See abstract in Journal, December 2, p. 1425.

76. **Chronic Glaucoma.**—De Schweinitz sums up the results of his studies of the 63 cases, in brief as follows: 1. While it is true that in typical cases of chronic glaucoma the nasal half of the field is earliest and most severely affected, this is by no means a constant occurence, for if an average field of a large number of measurements is constructed, there will result a map which indicates general restriction, rather than restriction in any one direction; in this respect the observations being in accord with those of Zentmayer and Posey. 2. The color field is often more contracted proportionately than the form field, and to attempt a differential diagnosis between simple atrophy and chronic glaucoma by an examination of the color field is not likely to lead to trustworthy results; an observation in accord with those of Zentmayer and Posey. 3. Scotomas are often found in cases of well-advanced chronic glaucoma, which may be ring-shaped, crescentic, paracentral or disseminated, and, moreover, these scotomas may be found by ordinary perimetric methods if care is taken to investigate each meridian and to use suitable test objects under varying degrees of illumination. 4. It is reasonable to assume, with Bjerrum, that the scotomatous defects are usually the result of the destruction of the fibers of the papilla at the margin or sides of the excavation, although it may be that some scotomas, especially ring-shaped ones, should be accounted for by changes in the inner retinal layers. 5. These scotomas are topographically different from those which occur in simple atrophy and may be utilized as a differential test between the two conditions, as Bjerrum has already pointed out. 6. It is evident that in many instances the scotomas are the forerunners of large defects in the visual field, the scotoma "breaking through" as it were, until the darkened area reaches the limit of the form field in the periphery. The cases are given in tabulated form and the symptoms and results stated briefly in the conclusion of the paper.

77.—This paper was printed in the Journal of November 25.

78.—Ibid, November 4.

79.—Ibid, December 2.

80.—Ibid, November 18.

85. **Typhoid Fever.**—Typhoid fever is a self-limited disease, according to the author, and he thinks that its limitation is due to antitoxin produced in the intestines. He believes the toxins produced by the bacteria are largely absorbed by the intestinal canal, and he therefore uses intestinal antiseptics, which, while they do not kill the microbes, nor cure the disease, render both less virulent. Among the remedies thus used he mentions guaiacol carbonate, thymol, beta-naphthol, calomel and terebinthinates. He thinks most of the intestinal antipyretics are too depressing, and that we have all that is needed in external appliances, and the cold sponge bath is usually sufficient. He believes a bath-tub in some cases is slightly risky. In advanced cases with weak heart, strychnia is far better than alcohol, though both may be resorted to if necessary. An irregular heart needs digitalis. He believes in an absolutely liquid diet, and in convalescence starchy foods are to be the last allowed.

86. **Sulphonal and Trional.**—Acute poisoning by sulphonal is very rare, but the chronic form is too familiar and of late years cases of chronic trional poisoning have also been reported. Woods reports the symptoms of this condition, which in the case of sulphonal are very similar to those of the neurasthenic state, until the advanced stage, when colicky pains, absolute constipation, local paralysis and ataxia and hematoporphyrinuria appear. The symptoms of trional poisoning are similar, though there are some minor differences. The most important point in the treatment of poisoning from the disulphones is prophylaxis. When the condition has become established, it is serious. Out of 20 cases of sulphonal poisoning he has known, 17 died. An important precaution is to see that the poison is not allowed to accumulate in the body, and the interruption of the administration of the drug must be for at least a week and the intestinal canal be thoroughly cleared. The importance of this last can not be overestimated. After emptying the bowels, the most promising treatment is that of Mueller, who, noticing the acidity of the urine, administered alkalies, sodium bicarbonate, etc. Large amounts of water should be introduced into the circulation, both by the intestinal tract and hypodermically. The convalescence is apt to be slow.

92. **Cervical Tubercular Adenitis.**—Simpson's paper advises, in the treatment of tubercular cervical adenitis, a protective plaster, preferably one of belladonna, and mercurial ointment and avoidance of poulticing until pus is formed. It must not be forgotten that there is a tendency toward resolution in children more than in adults. We should see that the original cause is not maintained in the tonsils or nasopharynx. He does not believe in excision, and he thinks that with proper general treatment suppuration will rarely occur. Fresh air, sunshine, good ventilation are essential measures. Do not paint with tincture of iodin.

95. **Pyloroplasty.**—After discussing the general subject of stricture of the pylorus and calling attention to the importance of some of its causes, such as gastric ulcer, etc., and also to the diagnosis, Richardson reports three cases of pyloroplasty performed with the Heinecke-Mikulicz method, and discusses its advantages and disadvantages.

97. **Albumose Peptone.**—The nutritive value of albumose peptone has been tested on dogs, by Austin. He employed a solution containing 12 per cent. alcohol for preservative purposes, first determining its value in terms of nitrogen. In every 250 c.c. of fluid there were 3.85 grams of nitrogen in the form of albumose peptone entirely free from albumin. This would be equivalent to 118 grams of lean beef, or 24.06 of albumin. A dog weighing 10.88 kilograms was fed with 250 c.c. of this mixture daily, and regularly weighed and the urine and feces examined. At the end of six days it had lost

680 grams, though it was receiving more albumin in proportion to its weight than a man of average weight would receive with a mixed diet. The fact that the dog was compelled to supply the threefold function of food, viz.: repair of cells, production of muscular energy and maintenance of heat with albumin alone accounts for the loss. The most remarkable thing was the remarkable muscular weakness, so entirely out of proportion with the loss of weight. In a second experiment the dog was given the same amount of peptone solution and 200 grams of mashed potato daily. This period lasted seven days, and while the dog lost the same amount of weight, it continued strong and lively, the addition of the carbohydrates materially modifying the condition. Still other experiments were performed and the general results are summed up as follows: 1. It is impossible to maintain life on peptone alone, as it is on all other strictly nitrogenous foods. 2. On the addition of a small amount of carbohydrate, the nitrogenous loss from the body, with the same amount of albuminous food, is very much retarded. 3. Peptone must be regarded as not only able to replace native albumin as a means of checking nitrogenous loss, but also as a means of increasing albuminous tissue. 4. For a period of forty-five consecutive days, at least, peptone causes no diarrhea or disturbance of the stomach.

100. **Pulmonary Embolism.**—Five cases of pulmonary embolism from thrombosis of iliac veins and pulmonary arteries are reported here, and the author calls attention to the importance of considering this not infrequent accident when giving prognosis. In not one case was there any symptom to suggest thrombosis of the iliac veins, but a favorable prognosis was indicated in all. The most constant symptoms recorded were dyspnea and precordial pain and distress. In one case the first symptom was a severe chill, followed by cold perspiration, cold extremities, cyanosis and irregular action of the heart. Death usually occurred so soon that no detailed statement of symptoms could be made. Biggs follows the rule of carefully removing and examining the blood which flows into the pericardial sac after removal of the heart, and then examining the pulmonary arteries, as large emboli are liable to fall out of the artery when it is cut across or when the lungs are raised for removal and thus may be overlooked. He would strongly urge this method of examination in all cases of sudden death, particularly if preceded by dyspnea.

101. **Uterine Fibroids in Pregnancy.**—The reciprocal effects of pregnancy and fibroids on each other are discussed by Coe, who cites several cases illustrating certain phases of the subject. It may be stated briefly that the rapidity of growth of a fibroid under the influence of pregnancy is in direct proportion to its more or less intimate relation to the uterus. Thus, a pedunculated subperitoneal growth may remain unchanged, while an interstitial tumor undergoes marked enlargement. On the other hand, a subserous fibromyoma situated in the lower uterine segment, or displaced and impacted in the cul-de-sac, may increase in size simply from obstruction to its circulation. The position of the tumor is therefore of no little importance. In some multiple subserous tumors, the effect of pregnancy seemed to be negative, but this is not the rule. Two cases here published show that pregnancy may be entirely masked by this condition. As regards the influence of the neoplasms on the course of pregnancy, it may be said in general that it may proceed normally. He thinks too much stress has been laid on the tendency of gravid fibroid uteri to expel their contents, as well as on the subsequent danger of hemorrhage. In answer to the question, whether we should advise young women with fibroid tumors not to marry, he says, under some conditions, yes, if we detect the growth before marriage, but in the majority of cases they give rise to no symptoms and are only discovered after marriage. It may be said that any fibroid causing marked symptoms, such as hemorrhage, pain and pressure effects should be regarded as a positive contraindication. Coe is in accord with the conservative trend of modern surgery, and would not interrupt pregnancy if it were possible to prolong it without undue risk to the mother. An elective Porro operation at the present day is attended with no more danger than a supravaginal amputation at the third or fourth month. Examination under anesthesia is advisable before deciding as to operation, as the condition may prove to be one that can be safely left to Nature.

102. **Pemphigus of Larynx and Mouth.**—Bryan reports a case of pemphigus involving the laryngeal surface of the right half of the epiglottis. He considers it, in this country at least, a rare affection. The diagnosis of pemphigus on the mucous membrane is not altogether easy. It has to be distinguished from diphtheria, tuberculosis, syphilis, herpes and the corrosive action of caustics. In his case he was aided in the diagnosis by Dr. Jonathan Wright, to whom he sent a sample of the membrane formed. The only remedy appears to be arsenic, which has acted well in this case.

104. **Carbolic Acid.**—The fact that alcohol prevents the tissue-destroying action of carbolic acid has been utilized by Adams, who uses the acid in the pure form, penciling it on the tissues with a camel's-hair brush, and as soon as whitening occurs, freely using absolute alcohol. He has found this effective in cellulitis, carbuncles, erysipelas and in a case of gonorrheal vaginitis which was completely cured in two treatments. He reports five cases and adds one in which an attempted suicide with carbolic acid was completely cured by the free administration of alcohol, without bad effects from either drug. He urges the use of the acid in this way, as offering splendid results at little cost.

106. **X-Ray and Head Injuries.**—Rudis-Jicinsky has been studying the use of X-rays in the diagnosis of head injuries, and considers them very promising. He says that if fracture exists, whether simple, compound or complicated, with fissure or depression, is determined in five seconds without any danger of complication, inflammation, etc. The simple or stellate fissure of the inner table is shown at once, in plain dark lines, and when hematoma is present it can not obscure the outlines. The shadows of bone and hematoma are altogether different. In case of foreign bodies the results are still better, and the value of the method when bony growths exist, and in hydrocephalus is very great. He says: We must always know the power of our X-ray, the distance of the tube from our object, the distance from the plate, the duration of exposure, and the angle at which the picture is taken. If we wish to make a correct diagnosis and produce an accurate picture, we must never be satisfied with one radiograph of the case, but make it also our duty to compare the picture of the injured part with the normal one. Work as rapidly as possible, make short exposures, and protect your patient. To read correctly the lesson of an X-ray picture, know your anatomy and pathology, keep the obliqueness of X-rays always in mind, make it as nearly life-size as possible, to get sharply defined outlines, remembering that we are dealing with shadows only, and use a proper dividing screen (Dennison's, etc.,) for measurements and exactness of pictures.

107. **Vaccination.**—Having had experience with some very sore arms following vaccination, Attwood experimented to discover the cause and finds it due to an improperly prepared or more probably an improperly protected virus. The ivory points so much in use, if not properly isolated, form an excellent culture-medium when exposed to an infectious contamination. The remedy is to use sterile glycerin lymph in hermetically sealed glass tubes, and in performing vaccination to see that the part is made surgically clean and the instruments are thoroughly aseptic. He calls attention to the bad effects of the use of dirty scarifiers, unwashed arms and unclean underwear, which should never be allowed to come in contact with the site of vaccination. He has tried, with good results, the use of a hypodermic syringe for injecting the vaccin matter under the skin, taking care that a thorough sterilization of the instrument was secured.

108. **Effect of Anesthetics on Kidneys.**—Kemp finds that ether produces a special contraction of the renal arterioles with a consequent damaging effect on the renal secretory cells similar to that following clamping of the renal artery. The kidney shrinks in bulk, the secretions diminish, with marked albuminuria, and are finally suppressed. This is not due to any change in the general arterial circulation, since it occurs not only with the use of pure ether but with mixtures containing it. The facts would seem to contraindicate the use of ether as an anesthetic when renal disease exists, and especially when with albuminuria there is a tendency to primary edema. Ether stimulates the heart, but chloroform, while it has no effect on the kidneys, has a direct depressing effect on the

heart. The A. C. E. and Schleich's mixtures are objectionable, because containing both these agents. Kemp doubts the manageability of mixed anesthetics, since with their different evaporating points the more volatile will increase the evaporation of the other. Thus, more chloroform will be inhaled if mixed with ether than if administered separately. He believes anesthol to be a dangerous anesthetic, causing, as he has shown, respiratory poisoning due to ethyl chlorid; an aggravated chloroform heart and the renal effects of ether. Nitrous oxid and oxygen are least dangerous to the kidneys, chloroform nearly as safe in this regard and ether the worst of the three. He advises, for scientific study of the effects of anesthetics, careful examination of the urine for twenty-four to forty-eight hours before operation, noting urea, indican and chlorids, catheterizing the patient immediately before anesthesia and examining the specimen, and also immediately after the administration, with careful analysis. He has found indican markedly increased by ether, and somewhat less so by chloroform and nitrous oxid. He thinks the possible significance of this is worthy of further investigation. The paper concludes with tabulated statements of statistics gathered from cases. He quotes Lawson Tait's opinion that the dangers of chloroform are immediate, but the dangers of ether, though less direct, may be even greater, and that cases, if followed up would, perhaps, reverse the records as they now stand.

109. **Anesthetics.**—The article by Thomson contains, with additions, the remarks made by the président in the discussion of Dr. Kemp's paper. He does not condemn ether so absolutely as is apparently done by Dr. Kemp. The fact that chloroform kills in so many ways, and is so immediate in this regard, is a matter for serious consideration. Thomson says he knows of only one condition in ordinary medical practice in which he would feel quite easy with chloroform, and that is when a regular but high tension pulse exists. A weak compressible pulse, on the other hand, decidedly contraindicates it, as does high tension pulse contraindicate ether. He speaks in conclusion of the methods of local analgesia, and gives details to be followed in their use. 1. An elastic bandage should be applied whenever possible, even on the scalp. 2. The cocain or eucain to be used should be dissolved in a saline solution of definite strength. Eucain has some advantage over cocain in being only one-fourth as toxic, and its solution can be sterilized by boiling. The best strength of the solution is 1 per cent. 3. The skin should be benumbed for the initial insertion of the needle, by cold, and a ring of infiltration should be made around the part to be excised, by injecting at the outer limit until a wheal of infiltrated skin is raised; then a second is made within its circumference. By this means the prick of the needle will not be felt. 4. The line of proposed incision is infiltrated and the cutting begun. This process requires time for complete analgesia and, therefore, can not be done in a hurry. But with the precautions mentioned, such operations as radical cures for hernia, abdominal laparotomy, etc., have been performed successfully. He says: "The contraindications of such operations are where the edema caused by the infiltrations would interfere with the subsequent coaptation of the parts, as in plastic operations, also in most operations about the eyes, nose, or mouth, or in young children and in nervous patients, who might faint at the sight of blood. But in so many cases can this procedure be successfully employed without incurring any risk whatever that it is fully worthy to be classed among the important advances of modern surgery."

111. **Recurrence of Tonsil After Excision.**—A case is reported by Hopkins, of recurrence of a tonsil after excision, which surprised him and led him to an examination of the literature. He finds several cases recorded, and in his experience some testimonies of such occurrences from the laity. This paper reviews the opinions of various authors on the subject, showing wide differences. The fact that laryngologists report so few suggests the idea that under general anesthesia now so commonly used, more thorough operations are performed and recurrence is more rare. Among the causes of recurrence, aside from imperfect operation, are a tuberculous or specific dyscrasia and an acute inflammation of the stump.

112. **Hemostatic Use of Gelatin.**—The use of the coagulating influence of gelatin on the blood to secure hemostasis in hemorrhagic conditions and aneurysms is a recent French introduction, and is here reviewed by Nichols, who mentions its value and dangers. The internal administration by injection is not fully developed as regards dosage, and there are certain points yet required to be determined in regard to it. He reviews the results obtained by this method in aneurysms, hemorrhage, etc., and then passes to the local use of a 5 or 10 per cent. solution with .6 to 1 per cent. of calcium chlorid in 100 parts of water, following, as in all administrations of gelatin, the rules of asepsis. This has been found valuable in obstinate epistaxis in one case, at least, of gastric hemorrhage, and in hemorrhoidal poisoning, in uterine hemorrhage and in superficial wounds. Nichols reports a case of hemophilia, apparently desperate, treated by the local use of gelatin solution put on to the bleeding surface, at once controlling the hemorrhage, which had been violent and unmanageable for a week. He says: "In conclusion, it is perhaps too early as yet to fix a final estimate of the value of the hemostatic use of gelatin, but if such successful and remarkable results can be constantly obtained as have been claimed by some observers, it is certain that the agent would be of great value in the treatment of some very serious and intractable conditions. No claim has been made that gelatin is a specific in any class of cases, nor that it should supersede ordinary methods of hemostasis. In cases which resist other methods of treatment, and such cases are usually very serious and even desperate, gelatin offers some hope, if only a forlorn hope of success. If only a portion of cases of hemophilia, which is such an appalling and disastrous complication, or of inoperable aneurysms, the treatment of which heretofore has at best been uncertain, yield to this agent, any proportion of lives thus saved, however small, will be ample justification for the use of gelatin." The article concludes with a bibliography of the subject.

113. **Microbes and Cold.**—After noticing the facts in regard to the influence of cold on microbes, especially the microbe of yellow fever, Vitale says: "We can deduce the conclusion that all microbes offer resistance to temperature that bears a certain relation to the medium in which they live, and that this relation varies not only for low temperatures, but also for temperatures above the normal. Chamberland demonstrated, in a two-branched Pasteur tube, that the spores of bacteria exposed to boiling temperature offered a resistance to heat which varied according to the nutrient medium in which they were placed. In liquid yeast, for instance, spores of bacteria remained alive for five hours after boiling. In a hay infusion they also remained alive for five hours, in a Liebig bouillon solution they remained alive but for three hours, in must of grape that had been carefully neutralized they were killed by boiling in half an hour. In a nutritive solution whose acidity was more than 2 per 1000 bacteria remained alive at a boiling temperature for only ten minutes. The temperature exerts an influence on microbes which bears a direct relation to the media in which they are being cultivated, and the resistance they offer is just so much greater as the media on which they live, whether they be natural or artificial, are favorable to the vitality of the microbes."

114. This article is abstracted above. See ¶ 62.

115. **Causes and Management of First Stages of Labor.**—A delayed first stage is considered by many physicians as only detrimental, from its interference with other duties, but Gillespie points out that it is a serious matter for the fetus and sometimes also for the mother if unduly prolonged. Its cause may be lack of muscular development, excessive false pains prior to confinement, in which case chloral or chloroform are useful, and a good primary treatment consists in the administration of strychnin for several weeks prior to labor. He mentions also a very painful complication which is frequently diagnosed as rigid os, but which consists of inability to completely evacuate the bladder and is quickly relieved by catheterization. Other causes are faults in presentation and position, which are discussed in some detail, uterine obliquity, excessive sacro-vertebral angle, cicatrices, contracted pelvis brim. He insists on the following points, which he thinks are too often disregarded in the management of the first stage of labor: "1. A slow second stage of labor is seldom seen except in women who have had a protracted first stage. 2. We are not justified in diagnosing 'rigid os' until we have exhausted

every effort to find a specific cause for the condition. When we become thoroughly imbued with this idea the cases which can be classed as rigidity become so rare as scarcely to merit consideration. An organ which possesses sufficient strength to rupture its own walls, in the presence of an insuperable obstacle, should surely have little difficulty in dilating its own orifice, if it can bring its force to bear properly. 3. Tetanic contraction of the uterus is much more common than usually admitted, if we include those cases where the uterus, in whole or in part, does not completely relax in the interval between pains. Such tetanic contractions, even if not of sufficient intensity to shut off the utero-placental circulation, do interfere sufficiently to render the child's chances of survival less, especially if the second stage is not prompt."

117. See abstract in JOURNAL, November 25, p. 1260.

118. **Uterine Fibroids.**—The theories of the formation of uterine fibroids are not very satisfactory, and are summarized by Murray, as follows: 1. Cohnheim's theory, upheld by many others, that they are developed from embryonic tissue, the mesoblast. 2. Disturbance of the nutrition of the part through interference with the blood-supply. 3. The microbic theory. She reports a number of cases, and from reviewing these, offers the following summary of suggestions and conclusions: 1. The possibility of determining definite clinical symptoms which would lead to a recognition of a distinct formative period of uterine fibroids, which might suggest a preventive treatment. 2. The predisposing causes of race, age—other than that of adult life—or condition count for little, and the elaborate reports which form the bulk of the literature up to the present time are of doubtful value. 3. The chronic inflammatory conditions of the endometrium, uterine parenchyma, and of the ovaries and tubes are most powerful predisposing causes, and there is a direct relation between the hyperplasia of the uterus and the formation of fibromyomata. 4. Extreme disturbances of the nervous system precede and accompany the formation of uterine fibroids. Insomnia, headaches, and hyperesthesia of the sensory organs are present to a greater degree than is usually found when the concomitant symptoms of the inflammatory condition of the uterus are present. 5. The evolution of the fibroid from the fibromatous centers, when it begins to take on growth, is exceedingly rapid, and it is impossible to tell the age of the growth by its size. The rapid appearance and development are the reasons why so few fibroids are seen and examined in their incipiency. The size and rapidity of growth depend on its blood-supply, which is determined from the beginning by the location of the nidus, and therefore such conditions as pregnancy or the menopause could have little influence. 6. The possibility of the action of curettage as a predisposing cause for these tumors on account of the violence done to the blood-vessels, and of hastening their growth, because of concentrating the blood-supply. 7. The crystallizing effect of Keiffer's experiments on the theories in regard to the formation of fibromyomata. He has demonstrated that the blood-supply is cut off from the uterine tissue, which then becomes condensed into whorls of fibrillæ which afterward develop into fibroids, obtaining their blood-supply from the surrounding uterine tissue. He has shown that the tumors are composed of a histologic structure in no way differing from the normal uterine tissue, save that which related to the concentric arrangement of fibrillæ. There was no evidence of embryonic tissue or new formation.

119. **Diagnosis of Obliteration of Receptaculum Chyli.**—Obstruction in the course of the thoracic duct usually produces chylothorax and chyloperitoneum, and chyluria is often present. Smith remarks that quite a number of cases of obstruction are on record, but the question of emaciation as connected with the condition of the duct is not referred to except, perhaps, incidentally. He remarks on two cases under his own observation, one of them the noted one of President Garfield, and notices three or four others from other authorities. The diagnosis is not always clear, but he suggests that from his two cases, and from the foregoing citations, it would seem that when, with symptoms of disease in or about the stomach, we have more rapid emaciation than can be otherwise explained, we are justified in making the diagnosis of probable obliteration of the receptaculum chyli, and that this probability will be increased to a very strong presumption if there are in addition rather copious pale, semifluid passages from the bowels. Under such conditions we should not place much dependence on fatty substances as articles of diet. Milk, so much relied on in gastric disorders, will be useful only for the proteids and the sugar which it contains. Albuminous and saccharine or sugar-producing foods must be employed in sufficient quantity to compensate for the loss of fats.

120. **Laryngeal Stenosis and Intubation.**—The ordinary cause of recurring laryngeal stenosis following intubation is the forcible pushing of the tube into edematous or infiltrated mucous membrane, and its mechanism is here discussed by Fischer, who agrees with O'Dwyer that traumatism is the chief and only cause of this, and the only safe-guard against it with an edematous or infiltrated mucous membrane is in using the small caliber tubes. In ordinary membranous diphtheria any tube must be introduced in the gentlest manner possible, and it is a wise rule to remove metal tubes every five days, to avoid irritation from calcareous deposits. If a tube must be introduced more than twice, Fischer has adopted a plan suggested by O'Dwyer, but not mentioned in the text-books, which consists of taking a rubber tube and immersing it in a solution of hot gelatin containing 5 or 10 per cent. of powdered alum, thus introducing the tube with this covering of alum gelatin. He has also had good results with a 10 per cent. solution of ichthyol and gelatin, and a 3 per cent. solution of europhen. He also notices specific stenosis found in syphilitic children, always congenital and taxing the skill of the physician.

121. **Graves' Disease.**—The thyrogenic theory of Graves' disease is held by Minor, who reports two cases of the disorder successfully treated by regulated diet, lactate and albuminate of iron and intestinal antiseptics. His chief reliance, however, is a modified form of lavage, which he describes. The patient, at bed-time, lies on the right side with the hips higher than the shoulders,, the right side being insisted on in order to make the flow from the splenic to the hepatic flexures easier. With a fountain syringe he then allows from one quart to one gallon of hot water at from 100 to 105 F., or even hotter, to flow slowly into the rectum, through the usual rectal nozzle, until the whole colon is full. The larger the quantity used the better, and patients soon learn to tolerate at least a gallon. This water is to be retained for half an hour, which is at first difficult, but soon becomes easy, and is then evacuated. Clinical experience and deductions from well-known physiologic facts justify him in claiming that a large part of the water is absorbed by the intestinal wall, thus reaches the portal blood and therefore the liver, which it washes out and stimulates to greater activity as a poison destroyer, and increases the flow of bile, thereby aiding in disinfecting the bowel, and lessening putrefaction, if the view that this is a function of this fluid be correct. Aside from this, free diuresis is produced, and if the water be hot enough, diaphoresis as well, thus powerfully disintoxicating the system. Certainly the results of a long use of this remedy have satisfied me that such is its effect, and certainly the case in point was no exception. The lavage was for a time ordered nightly; then at longer and longer intervals as the conditions demanded, but not finally stopped for about a year. While admitting that his experience is not as yet large, he thinks that these cases safely show that some forms of Graves' disease have their origin in intestinal fermentation, and treatment directed to this factor can cure the disease.

FOREIGN.

British Medical Journal, November 18.

Relation of Large-Celled Indurative Hyperplasia of Lymphatic Glands to Tuberculosis. HUGH WALSHAM.—The indurative hyperplasia of the lymphatic glands, met with in post-mortems of patients who have died of pulmonary tuberculosis, is familiar. Their significance is here discussed by Walsham, who disagrees with Ziegler as to their not being tuberculous. He reports an autopsy of a case in which, with a small focus of tuberculosis in the right lung and typically tubercular bronchial glands, the cervical glands were found in a condition of large-celled hyperplasia. In this case we have the two conditions existing together, the bronchial glands tuberculous and the cervical in a condition which he considers equally so. How the bronchial glands became affected is not clear. Careful search of the tonsils gave negative results While the tubercle bacilli could not be found in the cervical glands, he thinks we may consider this large-celled hyperplasia a kind of pretuberculous change.

Diphtheria Mortality of Three Principal Australian Colonies for Past Fifteen Years.—A. Jefferis Turner.—The statistics of these three colonies, as regards diphtheria mortality, are discussed by Turner, who notices their special conditions as to climate, changes of population, etc. He finds that in Queensland there has been a reduction of over 60 per cent. in the diphtheria mortality since 1895, the date of introduction of antitoxin treatment. In New South Wales the reduction is almost equally great, but it is only about one-half as much in the colony of Victoria, where there have been larger variations in mortality than in the others. In the three colonies taken together, the proportionate reduction of the death-rate from 1895 to 1898, as compared with that from 1891 to 1894, was 49.5. These figures are far more favorable than the corresponding ones for England and Wales, which he suggests may possibly be underestimated. Nevertheless, the saving of infant life even at the rate in Great Britain is a very important gain.

Lancet, November 18.

Etiology and Treatment of Inguinal Hernia in the Young. R. Hamilton Russell.—That inguinal hernia in childhood is always due to the presence of a congenital sac, and that removal of the sac in early life completely cures the hernia, is held by Russell. An exception should be made of certain acquired hernias which he considers to be always direct and places in a special class. He disagrees with the opinion that operation for hernia should never be undertaken in the case of a young child, and that a truss should be used instead. In his 60 cases, he has had one fatality due to suppuration of the ligature placed on the neck of the sac, the material being faulty. This exceptional case, however, he does not think alters the fact that these operations are not more dangerous in the child than in the healthy young adult, though the operation itself is more difficult and demands more skill. The operation as performed by him is as follows: The incision is made in the groin, parallel to Poupart's ligament, the cord sought for, its coverings successively opened and the cord, sac and testicle drawn out of the scrotum. The vas deferens and the vessels of the cord are next defined and separated and the sac is freed from these structures as high up in the canal as possible. A chromicized catgut ligature is now applied in the form of a Staffordshire knot, and the sac removed, the superfluous coverings of the cord carefully washed, dried and replaced in the scrotum. The wound in the groin is closed by the subcuticular method of suturing, a single thread of silkworm gut being used for this purpose, the two ends of which emerge from the skin about one-half inch from either extremity of the wound. A single layer of gauze and collodion is then applied, and when this is sufficiently dried a pad of dry dressing is bandaged on over all. The child, if small is placed in a double long splint to which it should have been accustomed for a day or two before the operation. At the end of a week the silkworm gut thread is withdrawn without disturbing the gauze and collodion, and a day or two later the child may be allowed to run about. He thinks this method offers a perfectly reliable and permanent cure of any case of inguinal hernia in a child. As regards inguinal hernia in female children, the operation is widely different, being about the simplest in surgery, and can be easily done in five minutes, amounting to less than the suture of a single hare-lip. The application of a truss in inguinal hernia in girls he characterizes as absurd.

Removal of Lens in Cases of High Myopia. Adolph Bronner.—The author holds that we should remove the lens in high degrees of myopia, not only to procure better vision but to prevent increase of the myopia. The objection that detachment of the retina may occur, he answers by saying that our statistics on this point are yet incomplete, and the accident depends to some extent on the skill of the surgeon. If there is loss of vitreous, or if the vitreous is damaged by the discission needle, there is danger. We should operate on both eyes, but only on one at a time. In this way we avoid danger of divergent squint.

Modern Views as to Causation and Treatment of Gout. Arthur P. Luff.—That in gout, owing to an inability on the part of the kidneys to fully excrete the uric acid, there is an absorption of the non-excreted portion into the circulation and the gouty deposits are ultimately formed, is Luff's view. He does not think that uric acid compounds exercise any poisonous or irritant effect when in solution in the blood or lymph. The trouble is due, most probably, to the precipitation of the crystalline sodium biurate in the tissues, producing irritation and inflammation. The view that a diminished alkalinity of the blood is associated with gout is based on pure hypothesis, and shown by experimental investigation to be erroneous. As regards treatment, its objects are to treat the gouty paroxysm and relieve severe pain. This can be done by free administration of colchicum and potassium citrate, and by a mild blue pill and Epsom salts. The painful joint should be packed with wool saturated with a warm alkaline and anodyne lotion. For the elimination of uric acid, free diuresis should be encouraged by the giving of plenty of water and the use of potassium citrate or bicarbonate or similar salts. Green vegetable food should be freely taken. The excessive formation of uric acid should be checked and by a carefully selected dietary. While a mixed diet is best suited, it should be a simple one and there should not be too much mixing of proteids and carbohydrates. The metabolism of the liver should be promoted by the administration of guaiacum, an occasional mild cholagogue pill, and by keeping the bowels open. General hygiene should be attended to, with exercise suited to the patient as soon as he is fitted for it. Enlarged joints and gouty deposits should be treated by massage, the constant current and cataphoresis to remove the deposited salts. He has had excellent results from these measures. Baths of various kinds, including hot air and radiant heat baths are most valuable. Suitable treatment at a properly selected spa is also of great benefit.

Journal of Laryngology, Rhinology and Otology (London), November.

Chronic Muco-Purulent Catarrh of Antrum of Highmore Simulating Postnasal Catarrh. A. J. Brady.—The author holds that there is a form of antral suppuration, rarely recognized, differing mainly from the typical cases in that pus never appears in the anterior nares. He narrates a case which had been variously diagnosed, but which proved to be of this character. The only way to properly investigate the condition and cure the disease is to make a free opening in the canine fossa. He finds the burr and engine a great improvement in this operation, over former methods.

Diagnosis and Treatment of Chronic Empyema of Frontal Sinus. W. Milligan.—This author says the correct diagnosis of this condition will require opening and inspection. As regards treatment, the question of palliative measures or radical operation arises. When no actual pain is present, free intranasal drainage by anterior turbinectomy, cauterization, etc., may do good service, but the proportion of cases where this is effective is small. Actual obstruction of the duct is not, he thinks, particularly common, but the more important feature is the chronic inflammation, producing a narrowing of the whole sinus cavity and cystic degeneration, polypi, etc. In whichever way the sinus is opened, whether by supraorbital or median incision, great care should be taken to scrape away all edematous polypoid or hypertrophied mucosa; to establish free communication with the interior of the nose and to fix within the sinus a drainage-tube sufficiently large to keep the opening patent. This, he thinks, should be kept in place not a few days but many weeks, until all danger of the passage closing is past.

Semaine Medicale (Paris), November 15.

Diabetes Mellitus from Chronic Insufficiency of the Liver. A. Gilbert and E. Weil.—The writers establish the existence of a diabetes caused by chronic "anhepatism," as they call it, chronic defective functioning of the liver cell, which may or may not be accompanied by organic lesions. The basis is probably a primary functional defect in the cells, hereditary or acquired, associated or not with arteriosclerosis. It is characterized by a peculiar urinary syndrome: indicanuria, urobilinuria, hypoazoturia and spontaneous or readily induced glycosuria, and appears in the course of various affections, especially infectious diseases such as la grippe or pneumonia, or during an attack of hepatic colic. Usually transient and latent, this syndrome, which is the expression of insufficiency of the liver, may persist and entail certain disturbances and complications such as are noted in fully developed diabetes mellitus. An actual diabetes from chronic insufficiency of the liver is thus constituted. It is only by means of a new technic—hepatic opotherapy—that it has been possible to distinguish this form of diabetes from the arthritic, with which it has always been confounded. This form is mild, always curable by treatment, but rarely spontaneously; it is liable to become intermittent or latent, as well as to recur at the slightest pathogenic incident. The important complications of diabetes are exceptional; the amount of urine remains normal and thirst is not excessive, but the mouth is dry and in some cases an alveola-dental gingivitis leads to the spontaneous, painless expulsion of teeth. The nervous symptoms are similar to those of *grand diabete*, but never to the extent of coma nor severe intoxication. Atheroma was frequently noted, also amblyopia and cataract. The cutaneous lesions heal readily, as also wounds from surgical intervention. An interesting feature is that the glycosuria corresponds to digestion, and vanished completely by the fifth hour after a meal in the tests tabulated. This form of diabetes is generally curable with hepatic opotherapy. It can even be said that this medication is only effective in this form of diabetes, of which it constitutes the touchstone and completes the pathologic autonomy. Twelve doses of liver extract, of twelve grams each, representing 100 grams of fresh liver, taken every day or two, will cure it. Exclusive milk diet is also effectual; also Vichy and other alkaline waters. This form of diabetes occurred in twenty-four out of thirty-seven cases of diabetes in the writer's experience during the past two years. Nineteen were men, the youngest 23, the oldest 70. In the two autopsies no lesions were found. Hepatic colic may induce a typical acute but transient diabetes, as they observed in several cases, and as this does not require a lesion, a reflex inhibiting action must be assumed for the cause. This cause also explains the diabetes from excessive functioning of the liver. It may or may not be purely functional, the same as the other. It is a *grand diabete*, in which the exaggerated functioning of the liver is evident in a considerable glycosuria with hyperazoturia but no urobilin nor indican. It was in this form that they observed a hepatic colic, in the course of a superposed biliary lithiasis, diminish the glycosuria by reflex action. This fact, which seems to contradict those mentioned above, is explained by inhibiting reflex action from irritation of the bulbar centers.

Berliner Klinische Wochenschrift, November 6.

White and Red Meat in Diet of Sick. H. Senator.—The research reported by Offer and Rosenquist in regard to the nitrogenous extractives of meats fills a gap in our knowledge in respect to this important article of food, but their sweeping assertions that "the difference between white and red meat is so slight that a distinction between them is superfluous," (see Journal, p. 1430) contradicts long clinical experience, and Senator hastens to reply that their research was only with uncooked meats, and that their conclusions do not apply to the cooked meats used as food. They also overlooked the non-nitrogenous extractive always present in meat, and also the fact that the difference in the composition of meats depends on something more than the mere amount of nitrogenous extractive they contain. Rosenfeld and Orgler demonstrated, in 1896, that the uric acid and alloxur bodies in the urine increase with the amount of nitrogen in the meat and the waste from the destruction of albumin, which is by no means an indifferent matter in the case of gouty or diabetic subjects.

Electrolysis in Treatment of Nose. A. Bock.—"Electrolysis combines all the advantages of other methods of treatment with none of their disadvantages." There is little if any pain, no bleeding, no after inconveniences, no interference with the usual occupations, the guarantee that no synechiæ will develop, the complete oversight of the operation, no infection, no disturbance in the general health or psyche. The only objection that can be urged is the length of time required for the course of treatment. It proved especially effective in overcoming the deformities in the *septi narium*, in sixty-five cases, with an average of six to seven applications. Acne rosacea and ozena were much benefited; verruca, nevi, calcified atheromata, and ear excrescences were removed in numbers of cases, and always without a perceptible scar or the annoyance of a permanent tampon.

Chronic Stricture of the Small Intestine. J. Sklodowski.—The symptoms of chronic stricture of the small intestine are: 1. A spasmodic rigidity of the proximal portion of the intestine, which becomes distended and visible as a very hard tumor suddenly forming and as suddenly subsiding after a few seconds, due to the stagnation and retention of gases and fluids above the stricture, and the vigorous efforts of the muscles to force the contents through the narrow opening. This symptom may occur without pain, but the pains never occur without this symptom, of which they are the subjective expression. The pains are characteristic, more like labor pains than colics, lasting two or three minutes but possibly recurring often, during what the writer calls the "period of pains," the subject feeling perfectly well during the intervals. Purgatives induce a long and intense period of pains, and should be avoided except as a differentiating measure. The musculature of the entire abdomen may become sensitive to pressure if the pains persist a long while. Even if complicated by complete occlusion, the pains still retain their intermittent character. The feces are normal, although constipation or diarrhea may prevail, but do not seem to have any connection with the pains. The second symptom is a spasmodic rising and falling of the loops of the intestines, causing them to become visible and palpable like long tumors, but less pronounced than the first symptom mentioned, and not accompanied by pain. The typical, regular character of these motor phenomena is also characteristic. There is no special continuous peristalsis. In locating the stricture, it must be borne in mind that if near the pylorus, the symptoms will soon involve the stomach. The motor phenomena depending on a stricture of this kind are usually limited to the hypogastric and umbilical region, while in case of stricture of the colon, they are usually in the upper or side regions of the abdomen. The size, contour and localization of the protuberances are the best guides in differentiating. The protuberances are always accompanied by more or less rumbling, and a splashing can be induced as with dilatation of the stomach. In case of stricture of the colon, the tension and hardness are more permanent and circumscribed, and the differences between the tonic contractions are less. Hard fecal masses palpated in the portion assumed to be above the stricture speak for the colon, while the splashing indicates the gas and fluid contents of the small intestine. Information can often be derived from thorough scrutiny of the rectum, from the anamnesis, etc. With stenosis of the colon, the feces are sometimes flattened, like a ribbon. The direction of the waves of peristalsis and the sounds do not have much diagnostic value. If the symptoms of partial occlusion have lasted a year or more without appreciable marasmus, a malignant neoplasm can probably be excluded. In this connection he notes the frequency of carcinoma in the intestines as established at Nothnagel's clinic during the last twenty-four years in 343 autopsies; rectum, 162; colon, 164; ileum, 10; jejunum, 0; duodenum, 7. In the 5 observations that form the basis of this study of chronic stricture of the small intestine, 2 were due to a cicatrix of the tuberculous lesion in the small intestine, 1 to a small incarcerated hernia of the intestinal wall in the internal inguinal ring, and 2 to adhesions after herniotomy. All foods that tend to excite peristalsis must be avoided. Opium will be found useful. A positive or even a probability diagnosis after careful study of each case, imposes surgical intervention. The prognosis is favorable.

Deutsche Medicinische Wochenschrift (Leipsic), November 9 and 16.

Embryotrophy. Bonnet.—In this communication Bonnet traces through the animal kingdom the constant striving for more and more complete nourishment for the intrauterine embryo, to its maximum in man, and asserts that the insignificant extravasations noted in the indeciduates increase in the deciduates to considerable effusions of blood, occurring repeatedly and evidently serving for the nourishment of the embryo and amnion, until in the hedge-hog, bat and man, even these are not sufficient and the maternal blood is taken directly by the ectoderm, for nourishment.

Operative Treatment of Otitic Meningitis. R. Mueller.—The existence of a serous form of meningitis has been recently established, and also the fact that, like the suppurative form, it may originate in an otitis or its consequences, and compel surgical intervention. Mueller describes two observations. In both, the diagnosis of a cerebral abscess consecutive to otitis had been made, but no abscess was found when operated on, and yet both patients were cured by the mere fact of the intervention. The correct diagnosis proved to be meningitis externa serosa chronica in one, and serosa interna acuta in the other. The symptoms in the first indicated a compressing cerebral abscess, and the sensitiveness of the left mastoid process in connection with a preceding otitis treated by curetting the antrum left little doubt that the trouble had originated from the ear. The slow pulse and congested retina suggested compression inside the skull, while headache, motor weakness, hypoesthesia of the right side, vomiting, vertigo, numbness and slight elevation of temperature fitted into the picture of a temporal lobe abscess, although there was no aphasia. The absence of stiffness in the neck and high fever and the regular pulse, militated against suppurative meningitis. No pus was found, but the amount of serous fluid indicated a pathologic increase, especially the abundance that gushed when the hard membrane was incised, and the amount that continued to exude for days afterward. The affection was evidently a suppurative meningitis in its incipient stage of hyperemia and serous effusion. The chronic character was evidenced by the long-continued headaches that had preceded the intervention, and the fact that all of the symptoms were not cured; the disturbances in gait and equilibrium still persist, showing that permanent lesions had been induced, and recent vomiting and vertigo suggest that the process still continues in a mild chronic form. Mere incision of the brain membrane and draining, however, saved the subject's life, and Mueller advances reasons for preferring this procedure to lumbar puncture in this and similar cases. In the second observation the diagnosis was still dubious for weeks after the intervention. The brain matter protruded through the incision and portions of it kept necrosing and dropping off, until a most remarkable amount of brain substance had been lost without apparent injury. The threatening symptoms induced by the compression of the brain lost their intensity from the moment the brain was incised and the compressed brain substance found an opportunity to stretch and loosen. The hernia of brain matter gradually subsided, the serous effusion diminished and the patient recovered without incident. This case emphasizes the advantages of the method always followed by the writer, of never operating on an otitic cerebral abscess through the wound in or by the ear, but always entering from without, beyond, where hernia, etc., are under control.

Intoxication of a Troop with Potatoes Containing an Abnormal Amount of Solanin. E. Pfuhl.—About the first of June fifty-six men were affected with an acute catarrh of the stomach and intestines, for a few days, the cause traced to a new lot of potatoes received, which the men had eaten peeled and boiled. Others who had not eaten so freely were exempt. The peeled raw potatoes were found to contain 0.38 per 1000 solanin, and the same boiled, 0.24 per 1000, while the normal amount is 0.06 in May and 0.064 per 1000 in June. Those who had eaten their entire portion had thus ingested 0.30 gram of solanin, an amount capable of producing severe disturbances. Small gray dots and spots were noted in the peeled potatoes, and these spots were found to contain one-third more solanin than the rest. The appearance of an acute stomach and intestinal catarrh, with chill, vertigo and sleeplessness two hours or more after a meal at which potatoes have been partaken of freely, should suggest the idea of solanin intoxication.

Chronic Degeneration of Cardiac Muscle. Hochhaus and Reinecke.—Dehio announced, not long ago (*Deu. Arch. f. Klin. Med.*, lxii), that besides the foci of induration in heart musculature, the so-called *Schwielenbildung*, consecutive to necrosis of the muscle around a diseased vessel, or originating in an inflammation of the endocardium or pericardium, etc., there was also a profuse proliferation of connective tissue which extended over the entire heart, involving the interfascicular as well as the interstitial tissues, not originating in the vessels nor pericardium, but due to quite another cause, to the dilatation of the hypertrophied heart which stretched the fibers until it weakened them and they degenerated, their place being taken by proliferative connective-tissue, as a process of repair. This proliferation he added, occurs most prominently in the auricle, as its weaker muscular wall is the least able to stand prolonged increased pressure. He also suggests the possibility that it may also originate in a regular interstitial inflammation, such as occurs in infectious diseases. Dehio calls this diffuse *Schwielenbildung* myofibrosis, and if his statements are confirmed our knowledge of the pathology of the heart will be materially advanced. He found it in all kinds of heart affections, and also in senile hearts, in which case he attributes it to sclerosis of the coronaries. Hochhaus and Reinecke have been seeking evidences of this myofibrosis during the past year, to confirm Dehio's assertions, but they now announce that in none of their preparations were they able to distinguish any diffuse lesion, finding nothing but the familiar foci of connective-tissue formation. They examined fourteen hearts, three senile, six with valvular lesions and one each of scarlet fever, puerperal sepsis, pulmonary tuberculosis and two of diphtheria. Normal patches were found in each, between the *Schwielen*, and the left auricle was always less involved than the left ventricle. In one heart alone, from a case of diphtheria and empyema, the interstitial inflammation extended over such large expanses as to indicate that if the disease had not terminated fatally, a diffuse interstitial myocarditis would certainly have developed. Such cases are extremely rare. The writers only know one other instance, related by Heller (unpublished), in which the heart of a scarlet fever patient was the seat of such intense interstitial inflammation that the entire organ was much increased in size. The possibility that myofibrosis may proceed from a so-called infectious myocarditis must therefore be conceded, but only as a very infrequent occurrence. The mechanism also seems to differ from that advanced by Dehio. His assumption that it is due to the stretching is not confirmed by the facts observed. The hypertrophied fibers seem to stand the stretching without injury, as long as the vessels connected with them are intact. The other explanation is more plausible, that a diffuse infectious inflammation may entail general myofibrosis. Further research will establish the frequency of its occurrence.

Mitteilungen a.d. Grenzgebieten der Medicin u. Chirurgie (Jena), v. 1, 2, 3.

Surgical Treatment of Acute Peritonitis. A. Tietze.—This comprehensive study of numerous collected and twenty-five personal cases—245 references in the bibliography—establishes the following indications for intervention: 1. The principal factor in the beneficial effect of surgical intervention is the evacuation of an infectious—toxic—exudate, combined with the relief in the tension of the abdominal walls and restoration of normal conditions in the circulation, with possibly the limitation of an incipient inflammation to its focus. 2. Intervention is therefore indicated whenever there are evidences of an exudate in either the circumscribed or diffuse variety. 3. Intervention is also indicated whether there is an exudate or not, in the first stages of peritonitis from perforation, traumatic or post-operative. A commencing septic peritonitis seems to be curable under these circumstances. 4. On the other hand, an already advanced, diffuse, septic peritonitis is not a subject for surgical intervention. 5. We must also except the dry form of diffuse septic inflammation which, although accompanied by symptoms of general irritation on the part of the peritoneum runs its course without any participation on the part of the organism as a whole. This also counterindicates an operation; likewise all cases in which the general infection is so far advanced that intervention is hopeless from the start. Tietze never rinses the abdominal cavity, but leaves the abdomen partially open and drains with gauze compresses stuffed in between the loops of the intestines. They hold the inflamed parts much firmer and quieter than opiates, which he never uses. They prove most satisfactory drains, although they stick to the loops and, theoretically, may later induce adhesions and disturbances in the functions of the intestines. But clinical experience and Schnitzler's experimental research have demonstrated that they become in time partially detached, and in any event it must be borne in mind that a peritonitis always leaves numerous adhesions behind it.

Surgical Treatment of Tuberculous Peritonitis. J. Herzfeld.—Eighteen complete recoveries out of twenty-nine operated on since 1890, are reported by Herzfeld, including seven children, i.e., 62 per cent. recovered. Löhlein reports

33.3 per cent. recoveries; Chrobak, 55 per cent; Czerny, 3 in 10, and Scheuer, 7 in 13. Experience has established that recovery may be followed by complete *restitutio ad integrum*, and that intervention must not be either too late or too early, which explains why a second laparotomy sometimes succeeds when the first has failed.

Influence of Longitudinal Incision of Kidney on Acute and Chronic Disease. J. Israel.—The success obtained in the large number of observations related in this communication opens a new horizon for the surgery of the kidneys, and encourages the surgeon to operate in many cases of nephritis in which internal medicine is powerless. In one patient, a woman of 61, there was complete anuria persisting for several days, in consequene of peracute inflammation of the left kidney, eight months after extirpation of the right kidney on account of tuberculosis. The kidney was incised down to the pelvis, the incision carried along the largest part of the convex border. Evidences of recent peracute pyelonephritis and non-necrotic abscesses were noted. The organ was loosely tamponned. All the urine soaked into the dressings for twelve days, when natural elimination was gradually re-established; the uremic symptoms all disappeared and the patient was restored to health and now considers himself perfectly well. Fourteen other observations are described, including cases of nephralgia, hematuric nephritis and angioneurotic renal hemorrhage, all treated by this simple longitudinal incision. Symptoms occurring on one side only are no evidence that the affection is restricted to one kidney, we know, but, on the other hand, the complete restoration to normal after this operation on one side only, is an indication that the process was limited to this one side. Six of the 14 were permanently cured; 2 with serious bilateral nephritis died; 3 have relapsed, but with much attenuated symptoms, and 2 are too recent to be discussed. Israel's experience with these cases confirms the existence of unilateral nephritis also that nephritis can induce renal colic similar in every respect to colic from a calculus; that severe nephritis can exist with no albumin nor tube-casts in the urine; that bilateral nephritis may induce colic on one side alone; that hyaline and other casts can be found in the urine with entire lack of albumin; that there is a variety of nephritis accompanied by profuse, paroxysmal hemorrhage, and these hemorrhages can appear and continue without colic. They are not the cause of the colic. Both hemorrhage and colic are the results of the congestion of the kidney. A large number of the syndromes hitherto called nephralgias, hematuric nephralgia, angioneurotic renal hemorrhage, etc., should in reality be attributed to nephritic processes. Incision of the kidney has in many cases a remarkably favorable effect on these nephritic processes. Anuria from acute ascending nephritis can be cured by thus slitting the kidney, and the wound should not be sutured.

Wiener Klinische Rundschau, November 5.

New Radioscopic Symptom of Bronchial Stenosis. G. Holzknecht.—In a patient at Nothnagel's clinic, with indications of stenosis and dyspnea on exertion, the right half of the thorax was a little smaller than the left and did not share equally in the respiration, but the larynx and trachea were intact, the radial pulse equally good on both sides, and heart normal. Radioscopy showed everything normal at first, lungs clear, heart action normal, excursion of the right half of the diaphragm slightly less than normal, but as the patient breathed deep the shadow of the heart vanished from the left side and slid up into the right half of the thorax to the nipple line, until only the apex was left projecting slightly beyond the sternum. Everything returned to normal on extirpation. The right bronchus, in consequence of stenosis, does not allow the lung to inflate equally with the left. The negative pressure in the right lung is therefore greater than in the left, and the mediastinum with the heart is aspirated toward the affected side. This inspiratory dislocation of the mediastinum into the diseased half of the thorax is only possible with movable organs, and adhesions might prevent its occurrence even with pronounced stenosis. Holzknecht suspends the fluorescent screen from a pulley in the ceiling, to manipulate it more conveniently, and obtains accurate pictures for preservation by fastening a glass slide over the screen, and drawing the outlines on this slide, copying them later through a transparent parchment paper adhering to the glass slide by capillary attraction from a little chloroform poured over the glass.

Grece Medicale (Syra), October.

Case of General Sclerodermia. J. Foustanos.—A severe and typical case is here described and the etiology traced to paralysis of the capillary vessels. The circulation is retarded in the extremities most exposed to the cold, and hence the nutritional exchanges are retarded and interfered with, especially in the peripheral strata of tissues. At the same time and as a consequence of the retarding of the local circulation, there is diapedesis of leucocytes and a plastic exudate, especially around the vessels, inducing slight inflammatory edema of the skin, which gradually becomes organized into an interstitial connective tissue, which in turn becomes fibrous, sclerosed, and contracts until the subjacent tissues are compressed to atrophy, and in time the deeper parts. The exacerbations correspond to colder weather, which demonstrates that it is not due to an anatomic alteration of the trophic nerves, on which weather would not have such a decided effect, and which would progress more continuously. Foustanos therefore considers sclerodermia a vasomotor paralysis, its nature the same as symmetric gangrene, i.e., a vasomotor lesion, but by a diametrically opposite action. It is due to vasomotor paralysis, while the gangrene is due to tetanic contraction of the capillaries, and facial hemiatrophy, myxedema or pachydermic cachexia, to purely trophoneurotic lesions. Sclerodermia differs from erythromelalgia—which he designates "mal de Weir Mitchell"—by its dependence on cold; in the latter the attacks and pains occur independently of the cold seasons, and the extremities are warm, while in sclerodermia they are ice cold, and the cutaneous lesions spread to the trunk and face. Erythromelalgia never reached the characteristic sclero-atrophic changes in the fingers noted in sclerodermia.

Pruritus in Syphilitic Dermatoses. G. Filaretopouto.—Several instanes are cited to prove that the element of pruritus enters into the clinical picture of syphilitic dermatoses much more often than is generally accepted, and especially in the cases in which the primary accidents were unnoticed or absent. The pruritus is favored by an arthritic, herpetic or nervous constitution.

Gazetta Medica di Roma, September 1.

Peritonitis from Typhoid Ulcer, Cured by Laparotomy. G. Farina.—The author reviews the thirty-six cases on record of surgical intervention in typhoid perforation-peritonitis, which resulted in recovery in seven, and adds another successful one, bringing the percentage of recovery up to 21.6. The patient was a robust young man with symptoms of peritonitis and collapse occurring after two weeks of typhoid fever. At laparotomy, an opening was found between the superior and inferior peritoneal cavities. It was sutured and a stream of purulent fluid traced to where it issued from a perforation 7 mm. in diameter in the ileum near its junction with the cecum. The patient's condition was so critical that the suturing of the perforation was postponed and the abdominal cavity merely cleansed and packed with gauze. When removed, forty-eight hours later, it was impregnated with the same evil-smelling fluid, and the cavity was rinsed out with a 3 per cent. solution of boric acid, by a siphon arrangement. The gauze packing was renewed daily, but more and more loosely each time, and the patient recovered without further operation, with careful selection of food, and left the hospital in three months—January, 1899—and has carried on his business of baker ever since, in his normal good health.

Quinin Sulphate in Exophthalmic Goiter.

Paulesco agrees with Reynier that exophthalmic goiter is not, properly speaking, a disease of the thyroid gland, says the *Jour. de Med. Interne*, as it is a disease of the blood-vessel system, a vasodilatation, causing cerebral congestion, with an increased activity of the thyroid gland, and other reflex symptoms. In the treatment of this trouble a vasoconstrictor is called for, and one meeting the requirements better than all others, is quinin sulphate. He reports three cases, one in detail; all were greatly benefited by the treatment.

Societies.

COMING MEETINGS.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27 28.

Oklahoma Medical Association.—The semi-annual meeting of the Association was held at Guthrie, November 23. Oklahoma City will be the next meeting place, May 9 and 10, 1900.

Associated Health Authorities of New Jersey.—The annual meeting convened in Mickleton, N. J., November 27, and the following officers were elected for the ensuing year: president, L. M. Halsey, Williamstown; vice-president, James Hunter, Jr., Westville; secretary and treasurer, T. E. Parker, Woodbury.

Louisville Medico-Chirurgical Society.—The regular meeting of this Society was held December 1. Dr. S. G. Dabney read a paper entitled: "Tuberculosis of the Larynx." The consensus of opinion expressed by those in attendance was that this is an unusually fatal disease; that orthoform and iodoform locally applied give best results, relieving dysphagia and thereby improving nutrition; and that these patients are better off in high, dry climate without medication than in unfavorable climates with medical attention.

Kings County Medical Society.—At a recent meeting of this Society, held in Seattle, Wash., the following resolutions were passed. The editorial referred to has already been reprinted in the Journal (December 2, p. 1443), and editorially noticed (p. 1431):

Resolved, That this Society highly appreciates the earnest editorial on the "Fee of the Doctor," in the October number of the *Ladies Home Journal*, and that it hereby extends a vote of thanks to the editor, Mr. Edward Bok, for his able effort in behalf of our profession. Be it also

Resolved, That this Society hereby expresses its appreciation of the exclusion of all patent medicine and other obnoxious advertisements from the columns of the *Journal*, by a vote of thanks to the Curtis Publishing Company.

Chicago Academy of Medicine.

Oct. 13, 1899.

BILATERAL DERMOID CYST OF THE OVARY.

Dr. William Cuthbertson reported a case of this condition. The interest in the case consists in the comparative rarity of bilateral ovarian dermoids. The patient was a young woman stenographer, 26 years of age, single, of good family and personal history. Her menstrual function, always normal, first made its appearance when she was 14 years old. About a year and a half ago, she began to have pain in her abdomen and back, the backache being the more severe. She was referred to the Doctor last June by Dr. A. E. Mowry of this city, and a diagnosis of ovarian cyst was made. On opening the abdomen both tumors were lying behind the uterus in Douglas' cul-de-sac, the one over the other, and on inspection were found to be dermoid cysts. The right ovary was completely transformed into a cyst, while the left had a small portion of ovarian tissue remaining at its upper part in which was a freshly ruptured Graafian follicle. As there was no way in which to preserve any ovarian tissue, both ovaries were removed; the uterus, not being infected in any way, was left *in situ*.

The patient made an uninterrupted recovery. After she left the hospital she began having symptoms of menopause—not having menstruated since the operation—such as hot-flushes, chilly sensations, nervous feelings, etc. Ovarian extract was administered, and at last reports she is very much improved, the climacteric symptoms having greatly abated.

According to Senn (Pathology and Surgical Treatment of Tumors), "a dermoid cyst is a teratoid tumor. It is called 'dermoid' because it contains skin derived from the epiblast by displacement of an embryonal epiblastic matrix, from which during the development of the tumor by proliferation of the skin and its appendages, the principal contents of the tumor are formed. Dermoids of the ovary arise as do dermoids of any other part or organ, from matrices derived from an erratic development in the ovary." This theory has never been satisfactorily proven in regard to ovarian dermoids.

Novy says (Journal, September 2, p. 603) that "dermoid cysts of the ovary form an independent group distinguished histologically and genetically from the dermoid cysts of other portions of the body. Although resembling a teratoma in some respects, it is yet morphologically and genetically distinct, and might be called a cystic rudimentary parasite of the ovary."

F. Munch (*Semaine Med.*, in the Journal, October 7, p. 910) says: The most prominent characteristic of dermoid cysts of the ovaries and testicles, distinguishing them from dermoid cysts occurring elsewhere, is that they are composed of the three layers of the embryo: the ectoderm, endoderm and mesoderm, and suggests as the most expressive name for them "tridermic tumors" as more appropriate than Wilms "rudimentary parasites."

Waldeyer advanced the theory of the parthenogenetic development of dermoid cysts of the ovary. The investigations of B. Novy, Wilms, Kroerner and F. Munch go to support this theory that these tumors develop from the ovum still in the follicle, which is fully matured and has received the impulse to further partially complete segmentation. This process should also be regarded as a pathologic and not a normal one. Bland Sutton holds to the inclusion theory and says: Formed organs such as limbs, vertebræ, long bones or cranial bones do not occur in dermoid cysts of the ovary, the imagination of dissectors sometimes leads them to see in these irregular bony masses maxillæ, mandibles, parietals, etc.; others have found perfect fetuses, but these were calcified intrauterine ones. Such errors, now unpardonable, gave color to the parthenogenetic theory. No one has demonstrated liver, heart, lungs, intestine, kidney, bladder, etc., in these tumors. The investigations of Kroerner and others refute this statement. The tumors I presented contained granular matter, fatty substance and lanugo, the latter still attached to the lining of the cyst cavity.

According to Olshausen, dermoid cysts of the ovary were found in 3.5 per cent. of 3275 ovariotomies. Ponpinel collected forty-four cases in which both ovaries were similarly affected (Senn). The ages at which they are found vary from 2 to over 62 years.

Ovarian dermoid cysts contain fatty material; hair; teeth; bone; nails (Cruvelhier); tongue (Johnstone); brain matter; sebaceous material; true optic vesicles, rudiments of ears, cranial nerves, ganglia, a quite complete medullary tube; we have also the remarkable observation of Kroerner of a sympathetic plexus within the muscular wall of an intestinal tract (Journal, August 19, p. 487).

DERMATONEUROSES FROM THE EXANTHEMATA.

Dr. William L. Baum presented this subject. A married woman, 35 years old, American, had a very slight enlargement of the thyroid gland on the left side, ever since she could remember. She was sent to the Cook County Hospital, Aug. 3, 1899, with the following history: A few days before she had a feeling of general prostration followed by vomiting and chills. On entrance to the hospital, the tonsils were found to be greatly swollen, the tongue red and fissured. After a bath the skin was covered with what appeared to be a patchy erythema, especially marked over the trunk and extremities. The color disappeared on pressure. Temperature was 101 F., pulse 120, respirations 28. On the second day her hands became red and swollen. Cultures from the throat showed staphylococcus and streptococci. The urine examination showed a trace of albumin and pus; amount somewhat scanty; no casts. The diagnosis of scarlet fever was made—her son was at the hospital likewise suffering from scarlet fever. August 10, she complained of rheumatic pains, but all traces of albumin had then disappeared from the urine. August 14, she presented decided swelling of the left lobe of the thyroid gland, which later extended to the right. August 19, the swelling of the thyroid assumed such proportions on the left side as to cause dyspnea and dysphasia. The isthmus of the thyroid was about the size of two fingers laid side by side. There was marked edema of the hands and feet, accompanied with decided pain. On account of the temperature, the patient had received, since August 9, daily, 30-grain inunctions of unguentum Credé, but August 19, as the temperature remained almost normal, the ointment was discontinued. The swelling of the thyroid remained until September 17. There then appeared evidences of fluctuation, and she was transferred to the surgical side, where the swelling was incised and discharged considerable pus. The swelling of the hands subsided very slowly. The Doctor looks on this case, in view of its history, as a neurosis. But once before, in 1400 cases, has he seen the thyroid so affected during scarlet fever.

The present case simulated acute myxedema. The only other case which approached it was that of a boy, 13 years old, who presented enlargement of the thyroid and swelling of the hands and feet, which gradually subsided under ordinary treatment. There was only slight albuminuria in the woman. Examination for casts was made in both cases.

REPORT OF AN ORTHOPEDIC CASE.

Dr. John Ridlon reported this case. The patient was a young woman. 18 years of age, and from a healthy family. She developed some stiffness of the right hip, with a little flexion deformity but no pain. Their local physician made a diagnosis of hip-joint disease and marked out the usual course of treatment. The family not being satisfied with the opinion, sought the advice of a practitioner in one of our large cities, who made the diagnosis of dislocation of the hip, on the presence of flexion deformity, shortening and restricted motion in all directions. Manipulation with and without anesthesia was tried, in order to reduce the dislocation, and when the patient became tired of this she had a greater degree of deformity, more sensitive, but no pain.

She then went to a surgeon in another large city, who, because of the flexion deformity and the lack of ability to extend the thigh, made a diagnosis of ovarian disease. The abdomen was opened and the ovary on the right side removed. She was treated for some time, then informed of her recovery, but she still limped and still had flexion deformity.

She next came to Chicago and went to the St. Luke's Hospital, where the house surgeon made a diagnosis of hip-joint disease, but the father, a very careful and shrewd business man, did not wish to abide by the opinion of a young doctor and went to one of the professors of surgery in one of the medical schools of the city. He made the diagnosis of fracture of the neck of the femur, despite the fact that there was no history of injuries, but a slowly progressing deformity with a corresponding increase of all the symptoms then present.

When I saw the patient, there was a flexion deformity of 45 degrees and an adduction one of about 10 degrees. There was a true shortening of 1¼ inches. When the legs were placed side by side, and the measurement was made from the umbilicus, there was an apparent shortening of 3½ inches, and an apparent shortening with adduction and flexion of a little more than five inches. There was no motion of the hip-joint. The father not being satisfied with the diagnosis of tubercular hip-joint disease, an X-ray was taken which showed very clearly that there was no dislocation, but an erosion of the head of the femur about one-quarter of an inch, and erosion of the upper border of the acetabulum of one-half inch.

When considering a case of this kind, one must take into account the question of a fracture of the neck of the femur, a dislocation, osteosarcoma, coxa vara and tubercular hip-joint disease. The dislocation ought to be excluded by the history, although dislocation may take place without any serious accident. Furthermore, traumatic dislocation is always backward and upward and gives a deformity of flexion, adduction and inward rotation. These conditions were absent in this case. The question of fracture of the neck of the femur, although usually confined to fat old women, does occur in men and children and in young people. Fracture of the neck of the femur, however, produces a very characteristic position of adduction, very slight flexion and an outward rotation. These symptoms were wanting. Osteosarcoma could be excluded on account of there being practically no pain, and nothing could be detected by palpation. The differential diagnosis from coxa vara was somewhat more difficult. It usually occurs during adolescence. This girl was 17 years old when her trouble commenced, but this disease goes on slowly for two or three years without any flexion deformity; shortening is the only symptom, and there is no restriction of motion until the shortening has become equivalent to an inch or two. This justified us in excluding coxa vara and led to the diagnosis of tubercular hip-disease. The onset had been slow, the progress slow, there was slight flexion deformity, adduction deformity, and absolutely restricted motion in every direction.

As to treatment, it was most satisfactory. It consisted of immobilization of the hip and lower spine, with a slight degree of traction on the limb. Within two weeks the flexion, and within six the adduction disappeared, and after four months the leg appeared to be one inch longer than the opposite, although it was really three-quarters of an inch shorter. In hip-joint disease the apparent ankylosis is not a true but a false one due to muscular spasm which can be overcome by proper immobilization to the joint. When there has been some destruction of the acetabulum, the head of the femur can in some instances be drawn down to its normal location, and if held there by apparatus, and treated by rest in bed, granulation and healing will take place, the upper border of the acetabulum becoming sufficiently restored to offer firm resistance to the femur. This girl has motion for nearly one-half the normal range in all directions, and never has had a moment's pain. The aspect of treatment in this case is most interesting to the orthopedist, and it seems strange that these eminent men should show such a difference in diagnosis, when the country doctor was able to make a correct diagnosis in the very beginning.

INTERSTITIAL GINGIVITIS.

Dr. E. S. Talbot, in considering this subject, said that interstitial gingivitis is a disease of the gums extending down into the alveolar processes, producing absorption of the bone and expulsion of the teeth. The dentist understands this disease best under the term pyorrhea alveolaris, the practitioner knowing it best as scurvy, lead, mercurial and other poisons. Most people over 25 years of age have this disease to a greater or less extent, and it is more to be afraid of than decay of the teeth. It is absolutely impossible to get specimens of the mouth in various stages of this disease in the human subject, therefore, he spent considerable time looking around among the animals to see whether it was possible to get certain animals in which he could examine the tissues microscopically in order to ascertain how the disease begins and how it progresses. In visiting the dog hospital in this city he found that nearly every dog had the disease, and it gave the opportunity for study. Selecting such cases as were of interest at different stages of the disease, placing the specimens in alcohol, he had them examined by five pathologists of this city. In order to arrive at some conclusion as to the commencement of this disease, he mercurialized a number of dogs, killing them at certain stages, and then examined the tissue microscopically. As shown by photographs, which were presented, the inflammation started in the capillary system of the gum, extending around the border and then up into the deeper layer of the mucous membrane. The enlarged ones showed the different forms of inflammation as it extends into the tissues. They conveyed an idea as to how this disease starts in the gum margin, extending down into the alveolar processes, and the different forms of bone absorption. There are four forms of bone absorption, one, known as halisteresis, begins in the Haversian canals, extending from one to another, until they are involved and the bone is entirely absorbed. Another form is Volkmann's canal absorption. We have, besides the Haversian canal, small capillaries running through the bone, called the vessels of Von Ebner. The third form of absorption is the osteoclastic absorption, and in one specimen, 37 osteoclasts were seen at work.

In connection with this work he made three sections showing the lower incisor and the jawbone intact, and these showed absorption on one side extending downward quite a bit, but, on the other side, little absorption. Pus pockets were seen on both sides. This work extends over four years and embraces the disease from start to finish, from the first inflammation of the gum until the tooth falls out. While this work was being conducted a man died in the Cook County Hospital, with scurvy. Dr. L. Hektoen very kindly procured him a section of the jaw, and Dr. Talbot presented photographs made from microscopic slides showing the diseased condition. In the gum margin a large pocket was seen, which has never before been demonstrated, and will add greatly to the history of the inflammation of the gums, because food would collect there starting up an inflammation.

MATERNAL IMPRESSIONS.

Dr. James G. Kiernan, taking this topic for consideration, said that maternal impressions have been considered from one standpoint only, and that is as to their supposed cause and its method of action. As the supposed cause is psychic and—in the conception of it usually adopted—immaterial in action, an absurd credulity respecting its powers which existed at one time among obstetricians has given way to an equally absurd skepticism. The subject has not been discussed by either set of partisans, from a scientific critical standpoint. At the January session of the Academy, the skeptical spirit evinced itself in denial of facts authenticated by embryologists and ornithologists of unblemished repute. The case was further supported by teratologic specimens in the British Museum. Spitzka had his skepticism as to maternal impressions shaken by these specimens, which were newly-hatched chicks with a curved beak like a parrot and the toe set back as in that bird. The hens in the yard where these monstrosities were hatched had been frightened by a female parrot which, having escaped, fluttered among them before the eggs were laid and greatly frightened the hens from whose eggs the malformed chicks were hatched. This would seem at first sight to confirm the photographic theory of maternal impressions. The fact is, however, that these malformations are simply arrests of development. Birds, being aberrant reptiles, belonging to the *Sauropsidae*. During their embryonic development birds pass through a reptilian phase. It was at the end of this phase that the chicks were arrested in development, producing the parrot-like malformation. It is precisely for lack of a logical explanation like this that modern obstetricians are skeptical. In a general way cases reported of maternal impressions may be divided into two classes: 1. Those in which an arrest of embryonic development has occurred, which may or may not be traceable to the alleged impression. 2. Photographic impressions charged to a factor utterly incapable of producing them because of the late period in embryonic life at which the impression is alleged to have acted. Of the cases which he first presented, Dr. K. said: It presents features which might be a basis for a myth like that of Europa and the Bull, or that of the extravagant antics of Pasiphæ, which produced the Minotaur. Although the physician did not accept the explanation, the gossips of the neighborhood charged the monstrosity to a fright by a bull which occurred at the eighth month of pregnancy. The bull-like face presented in both heads is the result of an arrest of development at a much earlier period. It is obvious that no force could so turn back the clock of embryonic development as to produce in the eighth month of intrauterine life changes which must have been based upon arrests of development established during the first. In the second instance—which is also of a double monster—there would seem to have been indicated possibilities of superfetation. Of this there is no evidence. The condition was charged to a fright during the seventh month of pregnancy at an engraving of a double-headed monster, seen in a traveling show. It is perfectly clear that this fright could have had no influence whatever in the production of the monstrosity. The next case is a cyclops. Cyclopea is the result of arrested development of the later acquired paired eyes and undue development of the middle eye, which ordinarily becomes the pineal body. The condition here found is practically the condition which exists in the provertebrates, like the ascidians. The eye of the ascidian tadpole agrees fundamentally with the type of eyes peculiar to the vertebrates, since the retina is derived from the wall of the brain, and is therefore called myolonic. The pineal body is a remarkable rudimentary structure whose constant presence in all vertebrates forms such an eminently characteristic median outgrowth from the dorsal wall of the brain. The distal extremity of this dilates into a vesicle and becomes separated from the proximal portion. The distal vesicle becomes entirely constricted from the primary pineal outgrowth of the brain. The remote ancestor of the vertebrates had a median unpaired myolonic eye which was subsequently replaced in function by the evolution of the paired eyes. This is shown by study of ascidian and lancelet eyes collated with cyclops and triophthalmos in man, the normal eye and the third eye of reptiles like the hateria of New Zealand. As Daresta has shown, production of a single eye, the changes in the structure of the mouth, the atrophy and the change of normal situation of the olfactory apparatus, and of the vesicle of the hemispheres, result from an arrest of development. The determining influence must be exerted very early in the life history of the embryo. In this case the mother who is a girl of 17, during the eighth month of pregnancy, visited a circus. This was followed by a dream anent animal monsters, and to this dream was ascribed the monstrosity. It is obvious that this dream could have exerted no influence whatever. The last case is one which might have been produced by a maternal shock. The condition of meningocele here presented could have been produced by an alteration of cerebral pressure, which again might result from a disturbance of the maternal blood-pressure, through a shock. The fact that mental shocks can only act on the organization in a purely physical manner is equally ignored by opponents and advocates of the psychic theory of mental impressions. All that is known of mind is known of it as related to purely physical conditions, and it is through pure physical conditions that it must act, whether its action be initiated by conditions affecting physically the various sense organs or not. There is no doubt that the fetus is liable to mental effects from the mother, since as Féré has shown, it often exhibits very decided reaction to sensory impressions on the mother. Women in the midst of an ordinary dream, producing only very moderate excitation, not generally interrupting sleep, are often awakened by fetal movements. These dreams need have nothing of the nightmare which would cause sudden contraction under the influence of a terrifying idea with its resultant cardiac disorder. They may be merely the ordinary phenomena of sleep. Mental changes of the mother hence excite motor reaction in the fetus and, as with sensorial excitations, these reactions are stronger in the fetus than in the mother. The mechanism of these motor reactions is obviously the unconscious and involuntary movement of the uterine walls. Dr. A. Lagorio, some sixteen years ago, brought before the Chicago Medical Society, several cases in which maternal impressions had produced decidedly abnormal births with deformities resembling those feared by the mother. In discussing these I pointed out that they were all instances of checked development, and advanced the opinion that normal shock generally directed played the chief part in maternal impressions through checking development and causing either general or local reversion. Here the statistic method can be applied. Of 92 children born in Paris during its last siege, 64 had slight mental or physical anomalies. The remaining 28 were all weakly; 21 were imbecile or idiotic, and 8 were morally insane. These figures of Legrand du Saulle justify the characterization by the working class of Paris of children born in 1871 as "doomed children." In Berlin the financial crisis of 1875-80 was followed by an increase in the number of idiots born. It must be remembered that profound mental shock can alter nutrition so that the mother shall furnish poisonous products in lieu of nutriment. That such poisonous products would tend to check fetal development no one will deny. While rejecting the photographic phase of maternal impressions it must be admitted that there exists a class of cases showing arrested development which is due to the effects of mental shock upon the mother. In the light of the discoveries anent the neuron the absence of neural connection between mother and fetus has not its former significance.

N. Y. County Medical Association.

TONSILS AS PORTALS OF INFECTION.

Dr. Emil Mayer's paper with this title was printed in the Journal of Dec. 2.

Dr. Isaac Adler opened the discussion, with a consideration of general infection. He stated that it had been conclusively demonstrated that there is a direct interchange between the surface of the tonsils and the lymph current, and it is also well known that the tonsillar crypts are favorite breeding-places for many kinds of bacteria, particularly the staphylococci and the streptococci. He deplored the tendency of many in the medical profession to still adhere to the notion that there is a distinct relation between inflammation of the tonsils and articular and muscular rheumatism, for there is every reason to believe that rheumatism, of whatever variety, is an infection dependent on the introduction into the system of attenuated pyogenic bacteria, notably the staphylococcci and the streptococci. This would explain the common clinical experience of an attack of severe rheumatism being ushered in by a tonsillitis. It is especially important to rid ourselves of the idea that a rheumatic endocarditis might be the result of a diathesis, such as gout, and to accept the view that it is simply the result of an infection of the valves of the heart by the staphylococcus or the streptococcus. Myocarditis may be similarly produced—in other words, it may occur as a result of a tonsillar infection. Personally, he believes that the case mentioned by Dr. Mayer as an endocarditis following tonsillar inflammation was in reality an acute myocarditis. He would most emphatically indorse the position taken by Dr. Mayer regarding the treatment of the tonsils, viz.: that inflamed tonsils are a source of danger to the individual possessing them, and that recurrrent tonsillitis constitutes a positive indication for ablation of the tonsils.

Dr. Frederick A. Packard, Philadelphia, discussed endocardial infection arising from the tonsils, and cited five cases in support of this view. Five of these had already been reported elsewhere. His first case of this kind was in December, 1893, in a boy whose heart he had frequently examined, and with whose personal and family history he was familiar. When first seen, he had had a tonsillitis, but the next day a loud, rough systolic murmur was audible, and this murmur was present as long as two years afterward, though the attack of tonsillitis had been recovered from in a few days. This boy never exhibited the slightest evidence of rheumatism. The second case was that of a girl of 13 who, in a previous attack of erythematous angina, suffered from a curious tachycardia, but exhibited no definite evidence of cardiac disease until the occurrence of another attack of angina about one year later. On the second day of this second illness there was developed a loud, harsh, systolic murmur at the apex, and transmitted to the left of the axillary line. This was in 1895, and the murmur is still present. Again, a man, 32 years of age, when first seen had been suffering from an attack of angina, and two murmurs had been audible over the heart. When next seen, a year or two later, he presented every evidence of cardiac dilatation and loss of compensation. Last winter, also, one of the nurses in the hospital, during an attack of severe streptococcus angina, developed a blowing murmur at the apex of the heart. Her family physician informed him quite recently that she now exhibits evidence of failing compensation.

Dr. Francis J. Quinlan emphasized the dangers to which an individual is exposed by retaining tonsils which are the seat of either acute or chronic inflammation, and reminded his hearers that this very year the Association lost one of its members as the result of an infection that had its origin in an inflammation of the tonsil.

Dr. M. C. O'Brien followed out much the same line of argument, calling attention also to the frequency with which persons are dosed with quinin, for a supposed malaria, when even a casual inspection of the tonsils would have given the physician the key to the true situation.

Dr. S. S. Jones commented on the not infrequent occurrence of sudden death in connection with tonsillitis, and endeavored to explain it on the supposition that either the heart muscle or the pneumogastric nerve had been suddenly overwhelmed by the intensity of the infection arising in the tonsils.

Dr. W. Freudenthal thought too much stress had been placed on the tonsils as the primary seat of infection; certainly the tonsils are very rarely the portals of tubercular infection. He is convinced that the retropharynx is much more commonly the seat of tubercular and other infections than the tonsils.

Dr. Emil Mayer, in closing the discussion, said that in the case reported by him he had merely given the diagnosis of the attending physician, but personally he too felt that the case had been rather one of myocarditis than of endocarditis. A most important point to remember is that it is not enough to merely remove a slice from the tonsils; they must either be gouged out, or tonsillectomy must be done.

EARLY RECOGNITION OF PULMONARY TUBERCULOSIS.

Dr. S. A. Knopf read a paper on this subject, printed in this week's Journal.

Dr. William H. Thomson directed attention to tuberculosis not infrequently remaining latent for periods of five, ten or more years. The results of physical exploration of the chest are notoriously uncertain, and, in his own practice, he has come to place great reliance on the specific form of emaciation peculiar to pulmonary tuberculosis. Its chief features are the thinning and flattening of the shafts of the long bones, and the wasting away of the muscles until they are reduced to mere ribbons.

Dr. William H. Katzenbach said that most probably the emaciation observed in cases of tuberculosis is often largely due to the absorption of toxins. While this wasting away is sufficiently characteristic of the disease, it does not usually become evident until the disease is so far advanced that there is but little difficulty in making the diagnosis from the other signs and symptoms. A common error is to overlook the early indications of a pulmonary tuberculosis developing in an alcoholic subject, because such persons so commonly have a slight cough. When considering the early diagnosis it is well to make careful inquiry into the patient's environment, occupation and general habits of life. While the changes in the body temperature are very moderate in many incipient cases, thermometric observations should be systematically made, as even slight variations from the normal are significant. The nature of an attack of hemoptysis is often puzzling. A very common cause is heart disease, and this should always be excluded before assuming that the hemorrhage is the result of a tubercular process in the lungs. When making the physical examination of a person suspected to have beginning pulmonary tuberculosis, the examiner should stand behind the patient and place his thumb on the scapula and the fingers under the clavicle, and, while making firm pressure, instruct the patient to take a deep inspiration. If this respiratory movement causes pain on one side, it is quite probable that on that side the lung will be found diseased. Slight pulmonary consolidation at the apex may also be indicated by an abnormal conduction of the heart sounds in this region.

Dr. Alexander Lambert said that he had been impressed with the exceedingly slight tubercular lesions that would, in some instances, give rise to the characteristic reaction with tuberculin, but this very fact tends to restrict the sphere of usefulness of the test, as it fails to give any hint of the extent or severity of the tubercular lesion. The subnormal temperature and the subfebrile temperature in the evening are very suspicious of incipient tuberculosis. Some years ago his attention was incidentally called to a peculiar vibration in the chest, noticed by a man whenever humming a tune, and physical examination revealed a tubercular process at that point, but at the time it had not occurred to him to attach to this sign any special diagnostic value. As to the agglutination reaction, while he has watched the experiments at the laboratory of the New York Health Department, they have only served to impress him with the worthlessness of the test.

Dr. Hermann M. Biggs seemed to think that physicians ought not to experience great difficulty in making an early diagnosis of pulmonary tuberculosis if they would only make good use of the diagnostic aids known to medical science. It is an interesting fact that, in a large number of autopsies made on pauper patients, spontaneously healed tubercular lesions have been found in about 60 per cent. of the cases, showing what Nature can and did do even under very unfavorable circumstances. He has found tuberculin at times useful in establishing the diagnosis. Koch used it in many thousand cases in Berlin—indeed, it has been the custom to apply this test to every person, at the Pathological Institute, who does not show good evidence of having this disease. The practice has been to begin with a dose of 1 mg., and subsequently, at intervals of about five days, to give first 2 and then 5 mg. If, after all this, the characteristic reaction does not make its appearance, it is certain that tuberculosis can be excluded.

Dr. John Blake White was pleased to note that Dr. Knopf places the examination of the sputum for tubercle bacilli in a position subordinate to the symptoms and physical signs. He has no faith in the tuberculin test, and, from experiments conducted by him some years ago, feels quite certain that a similar reaction can be evoked by the injection of various chemicals into the circulation.

Orleans Parish Medical Society.

New Orleans, La., Oct. 14, 1899.

OCCLUDED NARIS.

Dr. O. Joachim presented a case of congenital bony occlusion of the right posterior naris. The patient, a white boy about 8 years of age, was brought to the Charity Hospital with a history of inability to blow that side of his nose. Examination excluded adenoids. The diagnosis was established by the use of the probe, the Politzer bag, and by digital examination; this last showed the occluding bone to be not flat but grooved so that a finger could be fitted to the depression. The indication is to break through the bony partition. This is readily done. It is not so easy, however, to keep the opening patulous, as the tendency to occlusion persists. This the Doctor had found to be the case in a female patient first operated on two years and again one year ago.

Dr. Gordon King remarked on the unilateral character of the occlusion: it was his impression that the condition is usually bilateral.

Dr. Joachim, answering, stated that the cases seen by him had all been unilateral.

MASTOID DISEASE.

Dr. Joachim made a preliminary report of a case of this affection in a white man 20 odd years of age. There existed as complications cerebellar abscess and pyophlebitis of the lateral sinus extending down into the jugular vein. The abscess was emptied, the sinus incised and its contents evacuated; finally the jugular vein was tied at the lower third of the neck and incised above the point of ligature. Iodoform gauze packing was practiced. Dr. Joachim promised to report the case in full when terminated; at the time of report the condition was favorable.

FEBRIS FLAVA.

Dr. George S. Bel reported a number of cases simulating febris flava, clinically, yet presenting plasmodia in the blood and yielding only to persistent administration of quinin. Out of thirty-six cases only one had died.

THYROID EXTRACT IN UTERINE FIBROMA.

Dr. C. Jeff Miller reported four cases of uterine fibroma treated with this extract, given in tablets of 1 to 5 grains three times daily: two cases had been benefited, while in the other two no improvement had been observed.

TROCAR-CANULA IN RECTOVESICAL WALL.

Dr. Herman B. Gessner exhibited a curved trocar-canula removed by him from the rectovesical wall of a negro. This had been introduced for the relief of urinary retention due to impermeable stricture of the urethra, by a physician in a neighboring town. On the eighth day after the introduction, external urethrotomy was done by the method of Wheelhouse and the canula removed. No evil effect followed this prolonged retention of the canula, the case convalescing uninterruptedly.

UMBILICAL HERNIA.

Drs. R. J. Mainegra and E. H. Walet reported a case of congenital umbilical hernia in a child delivered with forceps from a primiparous eclamptic. The distended cord—four inches in diameter—was ligated beyond the hernial sac. The latter was then reduced, after which it was twisted and ligated. Twisting and ligation of the sac at successively higher levels had been practiced until the hernial opening had been reached. This last appeared to be closing completely and firmly.

New Orleans, La., Nov. 11, 1899.

HYSTERIC DEAF-MUTISM.

Dr. Gordon King brought before the society a patient that had been presented two weeks previously, suffering from hysteric deaf-mutism. A week before the first meeting the patient, a young man, had attended a spiritualist meeting. The medium suggested that the spirit of a certain physician, who had died some time before, should move him to write a prescription for the sister of one of those present. The patient had felt "moved," had then become frightened and gone home. He was much disturbed, finally losing consciousness, to which he was restored by his family physician. Since that time he has been a deafmute, communicating only by means of writing. The use of electricity, hypnotic suggestion and strychnin sulphate—1/30 gr. up to five times daily—was resorted to without avail. Finally Dr. King succeeded in bringing back phonation by taking away the patient's pencil and urging him—in writing—to make efforts to speak. At first the lips did no more than tremble; but in the course of a half hour he could whisper. Next morning he came and talked freely, explaining that he had continued to try at home and had finally succeeded. His hearing was still to be restored. The use of the auto-masseur was resorted to, with some little effect, causing the patient to hear a faint buzzing sound. The cure, however, was completed by the use of a simple ear-trumpet. The tip was put in the patient's left ear and the Doctor yelled in the trumpet; the patient jumped. He claimed that he had not heard, but finally admitted that he had. Within a half hour he could hear even a whisper on that side. The other seemed unaffected, not even a tuning-fork placed on the vertex being heard. The repetition of the ear-trumpet procedure on the following day caused a return of the hearing in this ear also. Dr. King stated that the combination of deafness and mutism in this case was particularly interesting, as it is quite uncommon, while hysteric deafness, especially partial, is quite common.

Dr. O. Joachim suggested calling the case nervous rather than hysteric. As to the method of treatment, no one is applicable to all. In one case of nervous aphonia seen by him, the introduction of the mirror into the throat caused the man to speak again.

Dr. King acknowledged that the term "nervous" is more applicable than "hysteric" to these cases. As to treatment, he had seen reported, in the *Annales de Laryngologie*, the cases of two men troubled with complete nervous deafness, cured by catheterization of the Eustachian tubes. They were first well impressed with the fact that this would cure them. Improvement was manifest from the start, but repetition of the procedure was necessary to effect a complete cure.

San Francisco County Medical Society.

Meeting for October.

MULTIPLE UTERINE FIBROMATA.

Dr. S. I. Harrison reported the history of a patient he had recently operated on, and exhibited the tumor removed. He also discussed the various methods of dealing with the condition of uterine fibromata. The tumor occupied practically the entire pelvis, and the differential diagnosis between fibroid and carcinoma was difficult. The fibroid mass had involved the whole of the uterus with the exception of the cervix, which alone was allowed to remain.

Dr. E. E. Kelly had seen the patient with Dr. Harrison and helped him operate. Without an anesthetic it was quite impossible to determine whether or not the mass was a fibroid or a cancer. There had been no hemorrhage from the uterus to speak of. Aside from the presence of the tumor mass, there were only the symptoms of dysmenorrnea and nausea, which might be as well produced by a sarcomatous growth as by a fibroid. The right ovary was attached to the fibroid tissue, but was not entirely degenerated; a portion of healthy ovary was allowed to remain. The left ovary was removed on account of total degeneration.

SANITARY CONDITION OF CAMPS ABOUT SAN FRANCISCO.

Dr. C. R. Greenleaf, Colonel and Medical Inspector, U.S.A., presented this topic. Journal, November 25, ¶ 113, p. 1352.

COLLATERAL CONSIDERATION RELATING TO APPENDICITIS.

Dr. Thos. W. Huntington said that many cases of appendicitis of the semichronic form should be diagnosed and operated on very much earlier than is the case. He cited a number of cases, for example, a doctor who had more or less pain in the right side of the abdomen for some six or eight years, but thought nothing of it. He suddenly developed grave symptoms, was brought to the city, operated on and a large amount of pus found in the vicinity of a gangrenous appendix. He will probably die, whereas if he had been operated on long before, he would have been a well man. The fault is not by any means with the general practitioner alone: the surgeon is quite as much to blame for not making the diagnosis in these cases, and for not operating on them immediately. His conclusions are: 1. Obscure gastric or enteric symptoms, such as habitual constipation, and occasional abdominal pains, either localized or fugitive, should be given careful consideration before disease of the appendix can be excluded. 2. A diseased appendix is a serious menace to the patient, aside from the possibility of ultimate explosion and infection. 3. Early operation in chronic appendicitis should be as strongly urged in the mild as in the more formidable cases. 4. Whenever the presence of adhesions has been detected during operation, thorough exploration of the general cavity should be made to avoid the necessity of a secondary operation for their relief.

Philadelphia County Medical Society.

Nov. 8, 1899.

APPENDICITIS AND ITS GREAT MORTALITY.

Dr. Mordecai Price read a paper with this title. He thinks medical treatment will not cure genuine appendicitis, which is purely a surgical affection. Certain symptoms frequently simulate appendicitis. He detailed a case in which a boy had suffered from a kick in the abdomen, and for a while the question was hard to determine until a large amount of scybalous masses were discharged from the bowel. The symptoms can only be determined on by an experienced practitioner. In appendicitis high temperature is rare, and is only present in acute cases. In operating he begins by making an incision through the abdominal wall, parallel to the crest of the ileum. The incision should not be made larger than necessary, and generally one from 1½ to 2 inches in length suffices. He amputates the appendix about ¾ of an inch from the head of the colon, or inverts it. and afterward closes with silk thread. In cases in which the appendicitis is due to hard fecal concretions, simple drainage suffices to cure. The wound should drain from the bottom. He uses irrigation and believes it essential. Frequently from two to three pitchers of warm water or normal salt solution are required. There should be no rubbing nor curetting of the intestine. The high mortality is due to either ignorance on the part of the operator or negligence of the patient. As to the after-treatment, the external dressing should be removed twice daily in septic cases with much discharge. In all these plenty of gauze should be inserted for drainage. In his series of over 100 cases only one hernia had occurred.

Dr. T. E. Ashton agreed with the speaker for the most part. He believes the high mortality is due to faulty diagnosis, and at the present time the most important thing is the study of the diagnosis. As to temperature, this disease has none which might be called typical. As to flushing the abdomen with warm water or saline solution, he long ago ceased that on account of the danger of spreading the septic process. At the present time the generally established technic is a good one. The high rate of mortality is due to delayed operation and results from septic peritonitis.

Dr. Brinkman had seen fecal fistula result from leaving the stump of an appendix. In three cases in which the stump had been left, subsequent attacks of appendicitis had occurred. In removing the septic material he resorts to swabbing rather than to flushing.

Dr. A. J. Downes thought that Dr. Ashton had given the keynote to the proper treatment.

Dr. S. Solis-Cohn dissented from the views of the different speakers as to operating in all cases in which the diagnosis of appendicitis had been established. He knew of instances in which consultants had agreed to postpone an operation and had no reason to regret such action in any of these. He had seen cases which simulated typhoid fever, and an operation in these would undoubtedly have done harm.

Dr. Price, in closing, said that half the battle is fought in this disease when the diagnosis is made. He recently examined into the mortality of appendicitis and compared the results outside with those attained in Philadelphia. Taking the mortality exclusive of that in Philadelphia, it was as high as 20 per cent., while here it was only from 8.5 to 20 per cent. This low mortality he attributes to proper technic and care in the after-treatment.

Johns Hopkins Hospital Medical Society.

Baltimore, Md., Nov. 6, 1899.

Dr. Harry Thomas was elected president and Dr. Thomas S. Cullen, secretary.

ANEURYSM TREATED BY ELECTROLYSIS.

Dr. Guy Hunner presented a paper on the treatment of aortic aneurysm by the introduction of wire into the sac, and electrolysis. A table showing the results of treatment in some thirty-six cases, all so far reported, showed that a number of cures had been effected. The method was considered to offer the best prospect of benefit in this almost hopeless disease under the Tuffnell or any other treatment.

Dr. Finney exhibited a patient recently operated on in this manner, with evidences of improvement and consolidation, and the patient expressed himself as feeling much more comfortable. A specimen was shown from a patient previously operated on, in whom the sac was filled with a firm layer of fibrin in which the wire was embedded.

CHARACTERISTICS OF POISONOUS SERPENTS.

Dr. Howard A. Kelly delivered a lecture on the characteristics by which the poisonous serpents of this country can be distinguished. He said it was very important that physicians should learn how to distinguish these harmful varieties from the non-poisonous. Most of the reptiles are harmless and some highly useful by their destruction of the poisonous varieties. One for instance is the most deadly enemy of the rattlesnake, crunching it to death between its folds; it kills far more than men. Many harmless snakes are considered poisonous. There are only four genera of the poisonous kind. The address was illustrated by the exhibition of many of the living reptiles, which were brought to the room in canvas bags and handled with perfect *sang froid* by the lecturer. One was a vicious rattlesnake with a dozen or more rattles. Controlling its movements by means of a cane, Dr. Kelly seized it by the neck and demonstrated ocularly and by means of extempore drawings on the black-board, while the reptile was wriggling and rattling in mid-air. Moccasins and copperheads were also taken out and exhibited in the same manner. The lecture will be published in full, with illustrations, in the *Bulletin of the Johns Hopkins Hospital,* and will be a most valuable contribution to the subject, being accompanied, as it will be, by a paper giving a full account of the investigations into the nature of snake poison and the serum treatment of small bites, by Dr. Thomas R. Brown.

St. Louis Academy of Medical and Surgical Sciences.

Nov. 14, 1899.

SEWER GAS IN ITS RELATION TO ENTERIC FEVER.

Dr. O. L. Suggett, in his paper on this subject, advanced the theory that the present epidemic of typhoid fever in St. Louis might be due in part to inhalation of sewer gas. He reported five cases in which he had found leaks in the plumbing of the house, and could find no other reason for the breaking out of the disease.

Dr. E. Lanphear was not willing to concede that sewer gas has anything to do with the dissemination of typhoid fever. He cited the cases in Paris where men digging in trenches were constantly exposed to the so-called sewer gas and not one suffered from typhoid. Again, he said that typhoid fever is not an air-borne disease, that it has not been proved that typhoid bacilli are carried in the air, and that therefore it could not be that the disease in its dissemination is affected either pro or con by the presence of sewer gas.

Dr. R. B. H. Gradwohl endorsed the views of Dr. Lanphear and that the typhoid bacillus is a micro-organism which does not live in the air, but its normal habitat is water polluted with the alvine discharges from typhoid fever patients or milk contaminated by being placed in receptacles previously washed with typhoid-contaminated water. He called attention to the epidemics of enteric fever in medical history, notably those in Lausanne, Switzerland, Plymouth, Pennsylvania, etc., and said that in nearly every instance he had ever heard of, the epidemic could clearly be traced to polluted water or milk supplies. He believes that the present epidemic in St. Louis is probably due to polluted water or milk supply. He was not ready to explain just why the epidemic was confined to the western portion of the city, but advanced the suggestion that the milk in that part was supplied by one dairy or that the sewerage in that part might be contaminating the water-supply.

BACILLUS TYPHOSUS AND HEPATIC ABSCESS.

Dr. R. B. H. Gradwohl read a paper on "The Rôle Enacted by the Bacillus Typhosus in the Causation of Hepatic Abscess, with Report of a Case." He took up the hepatic complications of typhoid fever, with a review of the cases of cholecystitis, cholelithiasis, etc., in which the bacteriologic demonstration of the bacillus typhosus had been made. He narrated the case of a man who had been brought to the St. Louis City Hospital, with hepatic abscess, and in the pus of this recovered the bacillus typhosus in pure culture. The history of the patient showed that he had had an attack of typhoid six years before. The post-mortem and bacteriologic reports were appended.

Dr. R. E. Wilson cited a case of cholecystitis which was under his observation some time ago, in which the bacillus typhosus was isolated, also one of gall-stones, in which the bacillus must have enacted a rôle, since the attack of gall-stone colic began a short time after an attack of enteric fever.

Dr. J. L. Boehm narrated some of the clinical features of the case reported by Dr. Gradwohl. He called attention to the difficulty of making a diagnosis in abscess of the liver, because of the obscure clinical symptoms.

Cincinnati Academy of Medicine.

Nov. 20, 1899,

KNIFE-BLADE IMBEDDED IN ORBITAL TISSUES FOR THIRTY-TWO YEARS.

Dr. C. R. Holmes presented a patient, who, at the age of 12, while running, fell, cutting his left cheek, with a cut over the lower lid, the globe swollen and injected and a beginning ulcer attendant. About three weeks afterward a little whitish mass presented in the wound and was removed with forceps. This was probably a part of the inferior cartilage. The lower lid became turned in toward the eyeball so that the globe was considerably exposed. He succeeded in passing through the intervening time without much discomfort; only recently, indeed, has he suffered any distress. When first examined by Dr. Holmes, ten days ago, there was marked hyperemia of the lower lid, the globe swollen and injected and a beginning ulcer of the cornea. It was supposed that there was necrosis of the orbit, and it was determined to remove the dead bone. On making the incision and probing, a foreign body was discovered and removed with a pair of hemostatic forceps. The body proved to be a knife-blade 1½ inches long and three-eighths of an inch wide. The patient remembered then that at the time of his accident he had had an open knife in his hand. In the excitement of the accident and subsequent treatment this fact had been forgotten. While the patient was under the anesthetic the inversion of the lower lid was corrected, and at the time of the presentation of the patient was practically normal.

VERTEBRAL ARTERY INJURED BY BULLET.

Dr. A. I. Carson presented a specimen of a portion of the cervical vertebræ with the vertebral artery, removed from a man who had been shot from a distance of about three feet, with a thirty-two caliber ball. The ball knocked off a portion of the lower middle incisor tooth, traversed the tongue (coming out just above the epiglottis), went through the esophagus, furrowed the body of the vertebræ and eroded the vertebral artery. The man was unable to swallow or speak for some time. A few days afterward, at about midnight, the interne was called and found the patient bleeding from some point in the mouth, which could not be located. The bleeding was readily controlled. About three hours later another call was made, but the man died just as the interne entered the ward. The patient died in about three minutes. In the specimen could be readily seen the small opening from which the hemorrhage took place. This case is in contradistinction to one presented by Dr. Carson about three months ago, in which the innominate artery had been severed for three-fourths of its caliber, and yet the patient lived two hours.

Toronto Clinical Society.

Nov. 1, 1899.

SPINA BIFIDA.

Dr. George A. Bingham, president, delivered an address on this subject. He gave a summary of eight cases, seven occurring in children and one in an adult, in which operative measures had proven successful in 75 per cent. This he thought compared favorably with the London Clinical Society's mortality of 38 per cent., in treatment by Morton's method. So far the results of the recoveries have been permanent.

PATHOLOGIC SPECIMEN OF APPENDIX VERMIFORMIS.

Dr. F. LeM. Grasett exhibited this specimen, which showed a remarkably thickened wall, and stated that the case had one element of interest, in that he had operated within thirty-two hours from the initial pain—the earliest operation he had ever performed for appendicitis. There was a solid mass of inflammatory adhesions surrounding the appendix, which came out *en masse*, leaving a cavity lined with lymph; there was no pus. The patient made an uninterrupted recovery. No foreign body whatever was found in the organ.

Dr. A. A. Macdonald asked for the remote results in these cases, and the bearing of appendicitis on life insurance. Although sufficient time had not probably elapsed as yet to gather data to form a basis for refusing these candidates, he thought it might be well to have an expression of opinion on the subject from the fellows. It transpired that some would insure immediately after the operation for appendectomy, i. e., after the patient had recovered from the results of the operation; others thought it would be better to wait a period of two years; while others thought a man without an appendix was a better risk than one with the organ intact.

NASOPHARYNGEAL POLYPUS.

Dr. D. J. Gibb-Wishart, by invitation, presented the patient, a boy of 8 years, and the pathologic specimen. The growth projected into the pharynx and, on being removed under chloroform, turned out to be a mucofibrous polypus, measuring about 3½ inches in length. Ten days after the operation, there was a little pain in the left ear and a rise of temperature to 104 F. The drum membrane was punctured and pus exuded. Tenderness and swelling in the glands of the neck along the edge of the sternomastoid on that side were noted within twenty-six hours, followed by the same condition on the right side. There was a gradual subsidence of all symptoms; and ultimate recovery. These cases are comparatively rare, especially so under 15 years of age. The polypus was attached to the middle turbinate bone, about the usual situation.

RESULT OF OPERATION FOR JACKSONIAN EPILEPSY.

Dr. D. C. Meyers recited the history of this case. He had presented the patient in person to the Society, last January. He was a farmer aged 23. At 5 years of age he was struck on the head by a club falling out of a tree, and was dazed, but there was no loss of consciousness and no depression of the skull. The aura occurred in the forearm, and the patient could give a voluntary exhibition of bringing on an attack and suspending it by seizing the offending member with the right hand. Spasms would last about thirty seconds; and he would have as many as thirty attacks in a day. Dr. Grasett, assisted by Dr. Peters, trephined at the instance of Dr. Meyers, on January 20. The center was reached just in front of the fissure of Rolando, about two inches below the longitudinal fissure. The dura was healthy, with two large veins running across it. There was no bulging. Electricity was applied with very satisfactory results. A probe three-eighths of an inch in diameter was inserted a distance of 1½ inches into the brain substance without any ill effects. A portion of the center was excised; the dura was not stitched and the plate of bone was not replaced. Subsequently, on the day of the operation he had several attacks, and on the next day the spasms were confined entirely to the paralyzed muscles. After five weeks, the attacks were considerably lessened; and he has the use of his arm for all practical purposes, though some paralysis remains in parts of the hand. Six weeks ago the fits entirely ceased, and he now uses the left arm free for all purposes. He has gained about 20 pounds in weight, feels perfectly well and has not taken any medicine for five months.

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SATURDAY, DECEMBER 9, 1899.

THE ARMY MEDICAL DEPARTMENT.

Last year the medical officers of the army made an effort to have their corps enlarged to correspond with the increase of the military forces. They represented the insufficiency of 192 officers, the legal membership of their corps, to perform the various duties connected with the sanitation and care of the army, which at that time required 700 volunteer officers and surgeons on contract in addition to the regular medical force. They represented also that all the other staff corps had a larger percentage of officers of the higher grades than the medical staff, and petitioned for rank commensurate with their responsibilities. But the national legislative body appeared to think that so long as physicians and surgeons could be had in emergencies under contract there was no need to increase the membership and rank of the army medical department. Professional ability may be obtained under contract, particularly when the circumstances of the time have a tendency to rouse the patriotism of the country, but a familiarity with military methods and sanitary administration can not be so readily obtained. The medical profession recognizes that a medical department which barely sufficed for a standing army of 25,000 men in time of peace can not be expected to control the insanitary environments of a hastily raised army of over 100,000 men on active service, and liable to attack from epidemic disease. The medical history of our volunteer regiments in the camps in Georgia, Virginia and Florida, in 1898, demonstrates the accuracy of these views.

Surgeon-General Sternberg has, without loss of time, renewed the effort to place his department in a condition to meet the emergencies of the future by requesting the Secretary of War to urge before Congress his views of what is needful to strengthen the medical corps. The text of the bills which he desires to have passed by Congress is given in another part of this issue of the Journal. He asks for an increase of 4 colonels, 10 lieutenant-colonels, 30 majors and 80 assistant-surgeons with the rank of captain and lieutenant, according to length of service. When strengthened even to this point, the medical department will require reinforcement by surgeons on contract. With the 192 officers now in the service the increase called for by the bill would give a total membership of 316, or only a few more medical men than are now serving in the Philippines. There are at present in those islands 52 regular medical officers, 23 surgeons of volunteers, 75 regimental medical officers and 157 surgeons on contract, a total of 307. The contract surgeons now in the service have had much experience, and among them are many who would be most desirable acquisitions to the medical corps. The Surgeon-General evidently considers it just and proper that they and the medical officers of volunteer regiments should have a way opened to them to obtain commissions in the regular army. Able men can not afford to remain indefinitely under a contract which affords no prospect of advancement.

Two other bills have been submitted by Surgeon-General Sternberg. One is for the relief of assistant-surgeons with the rank of captain in the volunteer army. The act of Congress, approved March 2, 1899, for increasing the efficiency of the army, provided three medical officers for each regiment, with the rank respectively of major, captain and first lieutenant; but the Comptroller of the Treasury ruled that officers commissioned as captain could draw the pay only of a first lieutenant in the medical department. Legislation is needful to remedy this anomalous condition. The other bill is intended to enable contract surgeons to recover pay for periods of leave of absence on account of sickness incurred in the line of duty. The Army Regulations of 1889 prescribe that "an acting assistant-surgeon is not entitled to pay when absent on leave, whether on account of sickness or otherwise." This involves a manifest injustice to many physicians who suffered from typhoid fever or other enervating diseases and required a leave of absence for recuperation. If a surgeon on contract at the present time should break down in health from exposure in the Philippines, a leave of absence granted him with a view to promote recovery would have to be purchased at the price of his salary.

The earnest support of every member of the Association should be given to these bills for the improvement of the army medical department.

At a recent meeting of farmers, dairymen and the Illinois State Board of Agriculture, held in Chicago, an organization was formed for the purpose of advocating a revision of the laws passed by the last legislature relative to the eradication of tuberculosis in cattle.

BIOLOGY OF BACILLUS TUBERCULOSIS.

Alfred Pettersson[1] points out that there are no less than seven organisms which more or less resemble the tubercle bacillus, and which may produce changes in the guinea-pig, which microscopically bear considerable likeness to tuberculosis. These organisms are: Petri's, also Rabinowitsch's butter bacillus, the three bacilli isolated by Moeller from timothy, vegetable dust and dung, the bacillus isolated by Moeller from the spleen of a lizard inoculated with tuberculosis sputum, the one which Czaplewski found in gonorrheal pus, and the branched organism which Korn[2] isolated from butter. Under Hueppe's directions Pettersson studied the morphologic and cultural peculiarities of the first five organisms. Of these five Moeller's timothy bacillus and dung bacillus are even more acid proof than tubercle bacillus, while the other three are more easily decolorized. Branching forms were observed in connection with all; club-shaped thickenings and true-branching occur in young luxuriant cultures—a fact which speaks against the degenerative nature of these appearances, as has been urged by Gunther and by Fischer.

Glycerin favors the growth in all media; in fluid media, surface films are generally formed; none of the bacilli liquefy gelatin; the dry crumbling form of growth of the tubercle bacillus is best seen in Rabinowitsch's butter bacillus. The variations in the appearances of the cultures are rather insignificant. The timothy and dung bacilli were found to grow well at a temperature of from 45 to 50 C.; the lizard bacillus grows best at room temperature. Pettersson could not convince himself that the bacilli isolated from butter, by Petri and Rabinowitsch, are identical, as claimed by these investigators. Korn's bacillus closely resembles Rabinowitsch's. Petri's butter bacillus and Moeller's grass bacillus No. 2 are probably identical. If this be true, the source of the contamination of the butter, namely from grass and vegetable dust, would seem to be established. Moeller's timothy bacillus and his dung bacillus are also regarded as identical. The various organisms occasionally caused miliary and submiliary nodules in the guinea-pig, but most often the inoculations were without any effect. The importance of these organisms in the diagnosis of tubercle bacilli is to be emphasized, but their greatest importance lies in the fact that their discovery has furthered our knowledge of the developmental history of this important pathogenic agent, which is now generally regarded as a parasitic adaptation form. The botanic relation of the acid-proof bacilli to the ray fungi is recognized by Pettersson. The possibility that genuine tuberculosis may be acquired "miasmatically" is denied by this author, the disease being at the present time acquired only through contagion by way of disease products. The acid-proof organisms of Moeller and others are saprophytes and facultative parasites; the ray fungi include both parasitic and purely saprophytic forms, the facultative parasitic forms being in some cases acid-proof; living tubercle bacilli have as yet been found only in the parasitic stage, but saprophytic growth is easily accomplished by cultural methods; the bacillus of leprosy exists only as a parasite, and saprophytic growth has not as yet been attained. All these organisms are characterized in greater or less degree by producing nodules; furthermore, by responding to the influence of living tissue by forming clubs and radiating foci. In the future it is probable that further evidence of their mutual relationship will be adduced. It is of great biologic interest to note that the members of a closely related group of fungi in many instances under parasitic conditions present themselves in such morphologic forms that they were at first regarded as bacteria; in this group we find, as pointed out, all transitions from pure to facultative parasites, from facultative saprophytes to obligate parasites. This is a great step forward in the biology of tuberculosis.

"THE LETTER KILLETH."

Medical reform is not achieved without occasional temporary setbacks in the way of judicial decisions in the lower and, more rarely, in the higher courts, but, like Galileo, we can say the world does move, nevertheless. Not so very long ago a local Illinois judge discharged, on a writ of habeas corpus, one Van Noppen, convicted of practicing medicine without a license and committed to jail in default of payment of his fine. In a second case, however, the same attorney similarly petitioned the supreme court and got a decision that bars future habeas corpus proceedings in like cases. A more recent lower court decision, as reported, is that the State Board of Health has no authority to inquire into the acts of practitioners who received certificates prior to July 1, last, when the present Illinois medical practice act went into effect. The Board proposed to revoke the certificate of a physician for unprofessional conduct, and on his petition for an injunction, the above opinion was rendered. It was held that the statute expressly repealed all the prior acts and limited the power of the Board to inquire into the acts of those whose license dated after its having gone into effect. It is evident enough that this was not the intention of those who framed the statute, nor was it the understanding of it by the legislature that passed it. This was maintained by the counsel for the Board of Health, in his argument, but the judge evidently took the purely technical view as against the general principle of interpretation of the law, according to the evident intent of the lawmakers as shown by the whole of the legislation on the subject. It was Lord Eldon, we believe, who once said in relation to the technical interpretation of statutes, that there was not a single act of Parliament through which he could not drive a coach and four. The natural inference is that he did not specially regard technical defects as such. The Illinois judge in this case evidently took no such view, though he riddled the intention. We had supposed that the latter was always first considered in the interpretation of a statute, but it seems this is not invariably the case. Even in regard to the higher law of the Scriptures, it is said, "the letter killeth, but the spirit giveth life." It is understood that the case is not ended, but will be taken to the supreme court, where it is reasonably hoped that the decision of the lower court will be reversed, as in the former case to which we have referred. It would be unpleasant to contemplate the possible unbridled license afforded by the ante '99 registration if this should not be the case, but the public would be the chief sufferers. The Illinois medical practice act is likely to be attacked in the next legislature and criticisms of it and the State Board of Health are being freely disseminated in the daily press. It must be considered, however, that it affords a great advance over prior conditions, and that it is better to aim to correct its defects by future amendments than to criticize it for them. The disreputable among both regulars and irregulars and the diploma-mill gangs will do their best to give us something worse. They have been stirred up by the activity of the present secretary of the Board, who is evidently endeavoring to enforce the law according to its spirit and intent, in spite of criticism and adverse technical lower-court decisions.

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[1] Berliner Klin. Woch., 1899, xxxvi, 562.

[2] Cbl. f. Bakt., Abth i, 1899, xxv, 532.

APHASIA AND WILLS.

The question of the testamentary capacity of a person suffering from aphasia in one of its forms, is, it is said, to be brought up before a New York court. Such cases have occurred before, but they are sufficiently unusual to be noticed in the lay press and have some medical interest. So far, however, as legal precedents exist they are of no real value whatever; the question is exclusively a medical one and each case is a law unto itself. It is entirely possible for a sufferer from aphasia to be of sound and devising mind so far as the disposal of his property is concerned; medical evidence must decide how far mental impairment existed and whether it affected testamentary capacity or the power of expression sufficiently to invalidate a will. There is a certain presumption that mental capacity may be affected when so important a function as that of speech is abolished or seriously impaired, but this is not necessarily the case as regards devising capacity. The subject is one, however, that suggests a great variety of possibilities, and there is a chance of there being a leading case evolved from the proposed suit, provided it is decided according to the best lights of modern medical science.

SANITARY REGULATIONS OF THE BARBER SHOP.

In Missouri a law has been passed requiring barbers to keep the regulations prescribed by the State Board of Health conspicuously posted. These include directions as to the care of towels, razors, brushes, combs, etc., under ordinary circumstances, and especially after use on customers with eruptions of any kind. The barber is required to wash his hands in running water before handling each customer, to have a disinfecting oven at hand and use it, and to employ clean, unused towels for each customer. If this law is duly enforced, it will probably give some trouble at first to the barbers, who may raise their prices accordingly, but competition and the law of supply and demand will soon regulate that phase of the subject. To the public it will be a valuable safeguard, and there is no sufficient reason why it should not be a success, at least if the local health boards do their duty. The perils of the barber shop under its unregulated régime are very real, as Dr. A. Walter Suiter has shown, and it is only remarkable that so many apparently escape them. Other states have also passed similar laws, and it will be of interest to watch their effects. In any case it will be well if the public can be educated to patronize only those establishments where such regulations are thoroughly and consistently carried out.

DIAGNOSTIC UTILITY OF X-RAYS.

There can be no doubt of the great utility of the X-rays in the diagnosis of various morbid conditions, although this mode of investigation, like other physical methods of exploration, may in some instances be not infallible, and in others it may alone be insufficient to yield the desired information. The X-rays are capable of disclosing differences in density of structure, and where these are sufficient to be appreciable as shadows to the eye of the observer, there the rays will be of service. It must be borne in mind, however, that wide variations exist in visual acuity, and, in particular, in that special kind demanded in X-ray work, and, further, that this may be sharpened by constant exercise. The X-rays can not disclose the actual nature of the structures responsible for the variations in density that give rise to fluoroscope or skiagraphic shadows. This information must be supplied by collateral evidence, just as we have learned to appreciate that variations in percussion resonance, in breath sounds, in heart sounds, in vocal fremitus, etc., are not severally dependent on identical lesions, and a decision as to their nature must be reached from a consideration of all of the circumstances in the case. The method of investigation is one that requires painstaking and persistent application, but, above all, that not too common qualification designated common sense.

"CHRISTIAN SCIENCE" AND MICHIGAN LAW.

The following are the chief points of an opinion of Attorney-General Oren of Michigan, given in reply to a question as to the legal status of "Christian Science" healers and their duty as regards reporting of dangerous communicable diseases under the Michigan law. The act as amended requires reports to the health officer, and in its penal clause declares that every physician and person acting as a physician, who shall refuse or neglect to immediately give such notice shall forfeit for each such offense a sum not less than $10 nor more than $50. "It is plain," says the attorney-general, "from the wording of the above section of the act, that it applies to either physicians as such, or persons acting as physicians." The question whether a "Christian Science" healer is thus included is taken up, and he finds that the term "physician" is only applicable to one lawfully certified by the board of registration. A "Christian Scientist" is, therefore, not a physician unless he is thus registered. Coming next to the phrase, "acting as a physician," he says: "The evident intention of the legislature in adding this class is to broaden the meaning of the section in order that it may include persons not physicians, and thus bring within its construction all the cases that might otherwise fail to be reported." If it was, as he thinks, intended to give the words, "acting as a physician," the wide meaning of which they are capable, they should be so construed. The evil the statute aims to meet is the danger to the public from the non-reporting of these diseases by failure of physicians and persons acting as such to duly report them. It follows, therefore, assuming this to be the intention of the lawmakers, that anyone who takes charge of and attempts to treat these dangerous communicable diseases, mentioned in the statute, by any means whatever, would be liable for not reporting them as required by the law. This would include a person employing "a system known as 'Christian Science.'"

TUBERCULOSIS OF THE DOG.

In these days when the struggle against "the white plague" is prosecuted with such vigor from all sides, it behooves us to take close notice of all possible sources of infection. Tuberculosis in the domestic animals has long been held as a source of danger, direct and indirect, to man. The occurrence of tuberculosis in the dog, an animal which often lives in very intimate relations with his master, is perhaps not as generally known as it ought to be. In fact, there are statements current in some of our text-books that the dog is immune to tuberculosis. This is far from being the case. There are numerous examples of extensive and fatal tuberculosis in this animal, which frequently becomes infected from contact with tuberculous patients. Instances have been described of canine tuberculosis the undoubted result of the licking up of sputum, etc. Barrier[1] recently furnished a new example of abdominal tuberculosis in a dog, contracted from his masters. The most interesting point in this case was the presence of intestinal ulcers, swarming with bacilli, which had rendered the animal a dangerous focus for infection, inasmuch as innumerable germs were undoubtedly discharged with the feces. Barrier therefore recommends that the same law be applied to dogs as is in force in France against bovine tuberculosis. Sheldon[2] has described an example of nodular tuberculous pericarditis in a dog of the large and powerful breed known as the "great Dane." There was tuberculosis of the peribronchial lymphatic glands and undoubtedly this is an illustration of infection in the dog by way of inhalation. Canine pets which show symptoms of chronic disease, such as emaciation and weakness, should therefore be regarded with suspicion, and dogs should not be allowed to associate with consumptives.

MEDICAL INSPECTION OF SCHOOLS.

The world is beginning to realize that prophylaxis has become a most important department in the practice of modern medicine, and that the duty of the progressive physician is not less to prevent than to cure disease. Much disease is spread by contagion, by the association of sick and well, often by intermediate communication, and wherever large numbers of individuals are associated, it should be considered necessary to subject them to regular and systematic examination. Children are extremely susceptible to some forms of transmissible disease, and schools have often been active media in their spread. The practical outcome of the recognition of this fact can be found in the designation in a number of large cities in America, as well as in Europe, of physicians for the purpose of making inspections of schools as to light, air, heat, drainage, and the like, and also with regard to the presence of disease, or even the suspicion thereof, among the pupils, and following these with the necessary corrective measures. This has been done with the utmost success in New York City, for example and a like movement has recently been inaugurated in Chicago[1]. Institution of a similar plan in Philadelphia is contemplated, as the method was employed and proved successful a number of years ago, but for some unaccountable reason was abandoned. It is now proposed to appoint 150 physicians at an annual honorarium of $300 each, to make every morning, under the joint auspices of the Board of Health and the Board of Education, an inspection of the children in all of the schools, and to send home with proper instructions, those who appear to be ill. This work is already being done in part by a small number of volunteers, and while the contemplated outlay of money appears considerable, it will soon be found that an actual saving will be made, as measured by the health of the community and the death-rate. The movement is one that is in every way commended, and it is entirely in a line with modern hygienic conceptions.

CONGENITAL VACCIN IMMUNITY.

A comparatively recent joint investigation by MM. Beclere, Chambon, Ménard and Coulomb, reported in the *Comptes Rendus* of the Paris Academy of Sciences,[1] and editorially noticed in an English publication[2], is of decided interest as bearing on the living questions of immunity and susceptibility. If we are not mistaken, we have rather recently noticed some clinical observations supporting the results here given. These investigators made observations on sixty-five mothers and an equal number of newly-born infants, and their findings are summed up in the following: immunity to vaccin inoculation was observed only in children whose mothers were immune, and only in a small number of these. The intrauterine transmission occurred in cases where the maternal serum was antivirulent, irrespective of the time when the mother was vaccinated. It was not observed, on the other hand, when the maternal serum was non-antivirulent, although vaccination had been effected shortly before or during pregnancy. The condition, therefore, of so-called congenital immunity is the transmission of antivirulent substance from the maternal to the fetal blood through the placenta. The condition, however, may be fulfilled without result, as some of the newly-born whose serum was antivirulent could be inoculated with success, and in fact the degree of antivirulent potency is variable, but it may be said that the more antivirulent the serum, the greater the presumption that vaccinal inoculations will fail. These experiments open up a comparatively new line of research, at least in the human species, which certainly appears promising, and it is probable that they will be followed by others that will confirm or modify the results. A further clinical study along the same line is suggested and is certainly desirable. The facts as reported, as the editor of *Popular Science* remarks, at least "make it difficult to deny the justice of the interpretation that in certain cases there is a passage of antivirulent substance from the blood of a vaccinally immune pregnant mother to the blood of the fetus and that the child may in consequence be born immune."

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[1] Societe Central de Medicine Véterinaire, 1899, p. 255.

[2] Medicine. 1898.

[1] JOURNAL, November 11, pp. 1232, 1241.

[1] Vol. cxxix, 1899, pp. 235-237.

[2] Popular Science, November.

PERIARTERITIS NODOSA AND SUPRA-ARTERIAL EPICARDIAL FIBROID NODULES.

Periarteritis nodosa is marked by circumscribed inflammation of medium-sized arteries usually in the form of greyish-white nodules up to the size of a pea, occasionally as more diffuse thickenings. The foci are scattered along the course of the vessels and at the giving off of small branches. The cerebral arteries are rarely involved, the most favorite location being the pulmonary, mesenteric, coronary, renal, hepatic and muscular arteries. As many as sixty-three nodules have been seen in one case. In Kussmaul's original case there were subcutaneous nodules over the chest and abdomen. Among the various views as to the cause of these changes, Schrotter[1] advocates the one held by Eppinger, namely, that the nodules are multiple aneurysms due to a congenital defect or weakness in the elastic layer, followed by cell accumulations in the adventitia and the media. The disease seems to be a distinct entity; at times the first symptoms are fever and rapid pulse, edema in various parts, articular effusions, pain, especially in the muscles, at other times fever is absent. In nearly all the cases, a peculiar anemia and general weakness have been observed. The electric muscular reactions may be changed, there being less irritability, and more or less loss of motor power may occur. According to location, muscular, renal, hepatic and other types may be distinguished. The febrile symptoms are attributed, by Schrotter, to the formation of intestinal ucers, to bronchitis and other secondary changes; the arterial changes in most cases probably are present some time before symptoms become apparent. The disease is most frequent between the ages of 20 and 30; it attacks males oftener than females. There are a number of conditions which must be considered in the differential diagnosis, such as miliary tuberculosis, septicemia, trichinosis, polymyositis and polyneuritis. In some cases antisyphilitic treatment has been followed by improvement. Recently Knox[2] described the occurrence of distinctly fibroid nodules in the epicardium directly over the coronary arteries, rarely over the coronary veins. These nodules may resemble the lesions of periarteritis nodosa, which is described as involving the coronary arteries also, but Knox points out that there are essential differences. The supra-arterial nodules are situated outside the adventitia and within the epicardium, they are made up of a sclerotic fibrous tissue containing but few cells. The arterial wall beneath the nodules shows, quite regularly, thinning of the muscular coat and reduction of elastic elements—changes which are attributed to irregularities in blood-pressure and to defective nutrition. The tendency of the arterial wall to bulge at the spots of weakening is perhaps held in check by the supra-arterial fibrous nodules. Knox does not offer any theory as to the cause of this peculiar new growth of tissue.

Medical News.

Dr. E. C. Grosskopf has been elected superintendent of the Milwaukee County Hospital.

A bazaar given by the different churches of Bridgeton, Pa., has netted $1100 for the Bridgeton Hospital.

Dr. R. Jorge, the Oporto physician and sanitarian, has been appointed chief of the National Board of Health of Portugal.

A negro patient of the Hospital for the Insane at Kankakee, Ill., was murdered while in bed recently, probably by a patient.

Late Vice-President Hobart's will leaves $5000 to the St. Joseph's Hospital and a like sum to the General Hospital, Paterson, N. J.

Last September a colored man and his wife, Unionville, Pa., were bitten by a supposed mad dog. On the sixtieth day, both exhibited symptoms of the disease and were taken to the Pasteur Institute for treatment. Death of the man occurred November 27. The wife's recovery is doubtful.

The two men referred to in last week's Journal (p. 1434) have been committed to prison for removing the labels from packages of oleomargarin. One was sentenced to pay a fine of $1500, with imprisonment for six months; and the other was fined $500 and given imprisonment for four months.

A violent explosion of gas completely demolished the interior of the department of the pay patients at the chief hospital at Brussels recently, inundating the patients with bricks and plaster, but without serious injury to any one; only one person, a nurse, was slightly wounded by a flying piece of brick.

The U. S. transport *Burnside* has arrived at New York City, from Cuba, with a case of yellow fever aboard. The sick person is a discharged soldier, P. E. Reider, who was taken ill while en route. There were sixteen cabin and fifty-six other passengers. He was very seriously ill on reaching Swinburne Island.

The Law and Equity Court of Richmond, Va., in the case of Dr. Susan A. Roope vs. the J. L. Hill Pub. Co., for damages resulting from the publication of her name in the directory as a "midwife," a title which she claimed was not complimentary, has decided in favor of the defendant on the grounds that such publication was not libelous.

In the case of Mary West against a druggist of Pittsburg, Pa., in which it was claimed by the plaintiff that death followed the administration of headache powder given to her daughter, examination of the powder showed it to contain acetanilid. A physician testified that it was capable of reducing the action of the heart, and the judge ordered a compulsory non-suit, on the grounds that the plaintiff had not made out a case in law.

Dr. A. H. Doty, Health Officer of the Port of New

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[1] Wein. Klin. Woch., April 13, 1899.

[2] Jour. of Exp. Med., 1899, iv.

York, who has recently returned from abroad, reports that the danger of importation of disease by Russian emigrants is greatly exaggerated. He found the science and laboratory work of the Russians for the prevention of dreaded diseases of the highest standard. In his visit to St. Petersburg, Moscow, Warsaw and other cities he found excellent systems of isolation and disinfection in effect.

SMALLPOX has been prevalent in Dixon, Ill., for the past six weeks, but owing to the mildness of the disease it was not recognized by the local profession. There have been about 100 cases which were regarded as chicken-pox until the correct diagnosis was made by the inspector for the State Board of Health. The diagnosis of smallpox has been confirmed by Dr. J. A. Egan, secretary of the Board, and Dr. Heman Spalding, inspector of the Chicago Health Department.

PROF. J. G. ADAMI, of McGill University, Montreal, addressed the physicians of St. Paul and Minneapolis, Minn., December 2, on goiter, and December 4 on "Latent Infection and Subinfection in Regard to Pernicious Anemia." Prof. Adami delivered the annual address before the Chicago Society of Internal Medicine, as previously announced in the JOURNAL, on the evening of November 29. The morning of the same day he gave a clinical lecture in the Cook County Hospital, and on Thursday evening was tendered a dinner in the Auditorium Hotel. This address will appear in the JOURNAL.

SUBSCRIPTIONS have been opened in all the European centers for the wounded in the Transvaal, and the French Red Cross Society has presented the English society with all the surgical appliances necessary to equip two field-hospitals. They have been installed on the hospital ship *Princess of Wales*. The Netherlands-South African Association has already collected 220,891 florins in Holland for the wounded Boers, and 5,700 florins in Paris. Belgium is sending ambulances with ten surgeons and thirty nurses. The German Red Cross has dispatched one ambulance and is now preparing another. The four field-hospitals equipped by the French Red Cross are ready to start.

MEDICAL SERVICE FOR THE TRANSVAAL WAR.—Considering the undermanned condition as regards officers of the army medical service, the *British Medical Journal* of November 25 says that the service is still 60 below the total of 890 which a late director-general described as a "preciously low" establishment, and 83 per cent. of its effective strength is at present serving abroad. Only about 16 per cent. of its executive strength was available for contingencies November 1, and these latter, by reason of mobilization, must be reduced to practically 11 per cent. In other words, barely 100 medical officers are available for the mobilization of a second army corps, should that prove necessary, and then not a man would be left at home to fill vacancies. It looks as if every casualty in South Africa and Great Britain's foreign garrisons, among commissioned medical officers, must remain unfilled. In spite of this condition, the *Journal's* special correspondent writes from Cape Town, under date of November 1, of the excellence of the arrangements made by the Royal Army Medical Corps in South Africa. He considers the Natal force admirably provided for and says that, contrary to what has sometimes happened, nothing has so far been wanting. Owing to the heavy work for the bearers, especially at Elandslaagte, Indian bearers are preferred to the whites, as they have "the hands of a woman" and they exhibit an absolute indifference to the risks of being under fire.

Correspondence.

Is the Present Method of Disposing of the Human Dead the Best That Can Be Adopted?

WHITEHALL, ILL., Nov. 27, 1899.

To the Editor:—The numerous objections to the present methods of burial of the human body after death must have presented themselves to a great many thinking minds; but, such is the force of custom, we will go on from generation to generation perpetuating the same grievous errors, solely because it is custom. In the present iconoclastic age, every individual should rise above being governed by such trivial motives, and squarely question every important act concerning the affairs of life, striving to see if it be not possible to leave to posterity a better series of customs than our ancestors have left us. There should be no superstitious veneration that perpetuates an evil, simply because it is hoary with age. A human body clad in woollen garments, incased in a wooden casket, this in turn placed in a wooden box, is in a condition to remain a source of offense for a long period of time. If the body has been embalmed, as is most usually done at the present time, the undesirable conditions are enhanced many fold.

Cremation, which to a limited extent is gaining ground, can scarcely be universally practiced, on account of the expense. The original cost of the crematory, preventing its erection in sparsely settled districts, and the expenses connected with the reduction of a body to ashes, place it out of the reach from a financial point of view, of a very large number.

There should be but one method of disposing of the dead, applicable alike to rich and poor, a method that, while exhibiting nothing but tender love and care for the remains of those hallowed to us by so many loving ties of kinship, or friendship will at the same time dispose effectually of the possibility of desecration by future generations. Just what this method should be is probably open to discussion and experimentation, but as an entering wedge and a basis for a working formula, something like the following might be adopted. The body, prepared for burial without embalming, is dressed in thin linen or cotton goods; if the latter is used it should be rendered absorbent. Then, commencing at the feet, the body is wound in graceful folds, in a sheet made of absorbent gauze, as far as the chest, with sufficient left to continue over the face and head later on. It is then placed in the casket. The grave should have no lining, but the bottom should be previously thickly covered with quick-lime. At the grave the sides of the casket should be removed, the folds of the winding sheet continued up over the face and head, and the false bottom of the casket on which the body rests lifted with the body and lowered into the grave, where it is slipped from under the body, which then rests directly on the bed of quick-lime. The body is then to be entirely covered with the latter, and the grave filled with earth. The winding sheet prevents direct contact of the lime with the skin, and should be as soothing to the feelings of friends as the more elaborate covings used at present. Together with the clothing, it is absorbent, and offers the least amount of resistance to the action of the lime, so but a short time would elapse before the body has been rendered innocuous, and safe from future desecration. The casket is to be returned with the hearse, and, on being fitted with new linings, would be as unobjectionable for future use as the hearse. By this method we would practically obtain cremation, at least as far as the soft tissues are concerned, free from the objectionable features of the present method, as all would be covered in the earth, with no smoke nor odors, and a final disposition of the ashes provided for at the same time. Such a burial would be comparatively inexpensive, a feature of the greatest importance.

H. W. CHAPMAN, M.D.

New York City.

A FEW days ago a young man died at St. Luke's Hospital from blood poisoning, said to have been produced by scratching a pimple on his face with his finger nail. He was only ill about a week.

SAILORS' SNUG HARBOR INVESTIGATION.

As a result of the investigation into affairs at the Sailors

Snug Harbor (see Journal, November 25, p. 1372), the trustees adopted, by a vote of five to one, a report fully vindicating the commander, Daniel Delehanty. They found that the charge had been trumped up by subordinates who had come into conflict with the commander in matters of discipline; moreover, they branded as maliciously false the charges made against him, and commended him for his discretion as well as his energy in conducting the affairs of the harbor.

NEW YORK LYING-IN HOSPITAL.

The report of the Hospital says that 3268 persons have received medical attendance, 412 of these in the hospital wards and 2848 at their homes, during the past year. Out of this number 2033 were of foreign birth. It is asserted that the average wages of the husbands of these women was $32.24 per month, so, after deducting the rent there was 81 cents a day for the support of the family. A gift of $250,000 is announced from J. Pierpont Morgan, in addition to his original donation of $1,000,000 for the erection of a new hospital building, and certain lots.

CHILDREN'S AID SOCIETY.

According to the annual report, the daily average attendance the year past, at the industrial and evening schools maintained by the Society, has been 7218; the average daily number of homeless boys and girls who found shelter in their lodging houses was 402. Through a system of visiting, 3562 destitute families were relieved. No less than 1571 children have been sent out of the city in the past eleven months, and 70,000 persons, mostly children, have been permanently removed from the overcrowded city, since 1854. During the year the Society received from the city $105,654, and from all other sources, $243,385.

SERUM TREATMENT FOR CANCER.

Dr. P. J. McCourt, of this city, has been engaged for some years past in studying the effect of treating cancer by different varieties of serum. He claims to be working along new lines, and certainly it would appear so to most persons listening to his description of the method. He says he obtains the primary serum from typical cases of rapidly recurrent carcinoma, the virus being collected from the ulcerated surface under proper precautions. It is then mixed with a perfectly pure vegetable glycerin, and subjected to a series of triturations and repeated subdivisions, whereby, he asserts, the toxins become converted into antitoxins. He does not employ the subcutaneous method, but advises that the serum be given by the mouth, two or three times a day, and continued for a long time. Dr. McCourt exhibited his serum at the close of one of the Section meetings of the New York Academy of Medicine the other evening. He stated that while considerable clinical material had been kindly placed at his disposal by a number of the hospitals treating cancer cases, the present communication was strictly a preliminary one, and he would not speak of the results obtained with the serum further than to state that it had been found to relieve pain, improve the general health and retard the progress of the cancerous growth.

Philadelphia.

Thanksgiving donations at the German Hospital amounted to $9000 in money and serviceable articles to the value of $1200.

Dr. John B. Deaver, visiting surgeon of the German Hospital, has offered a prize of $100 to the student who at the end of the year shall present the best set of notes taken from his clinics held at the hospital each Saturday afternoon.

Drs. F. A. Packard and J. Allison Scott have been added to the medical staff of the Pennsylvania Hospital. Dr. J. Harvey Shoemaker was appointed physician to the out-patient department, and Dr. Francis A. Craig was elected resident physician.

Dr. Albert Fricke, who died last week (see Journal, December 2, p. 1440), devised one-half of his residuary estate of $32,500 to the Mutual Aid Association of the Philadelphia County Medical Society, for the use of the Association.

The coroner has been notified of the death of a girl, 12 years of age, attributed to eating pills which have been scattered broadcast by many of the houses dealing in patent medicines. She ate a large number, probably thinking the pellets were candy.

Some discontent is manifested by parties interested in the establishment of a hospital for orthodox Jews in this city. Rival factions seem opposed to the plan and want an institution established which will receive all foreigners alike, without reference to such a strict ruling as that demanded by the former institution.

A man, while having the hot air method applied for rheumatism of the arm and shoulder in one of the institutions of the city during the past week, became severely burned from the ignition of the material with which the parts were wrapped.

Through the good will of a party whose name is for the present withheld, $250,000 has been given the University of Pennsylvania for the establishment of a laboratory of physics. The total valuation of new buildings now in the course of erection and those recently built amounts to $2,100,000.

The authorities of the St. Mary's Hospital have acquired the property located at 1737 and 1739 Frankford Avenue, costing $13,500, on which it is proposed to erect a new hospital. The buildings now on the grounds will be torn down to make way for the new one, which will have an additional 200 beds and several new wards.

MORTALITY STATISTICS.

The number of deaths during the past week was 410, an increase of 24 over the previous week, and an increase of 11 over the corresponding period of last year. The principal causes of death were: apoplexy, 12; nephritis, 29; cancer, 16; tuberculosis, 52; diabetes, 2; heart disease, 35; pneumonia, 48; diphtheria, 142 cases, 31 deaths; scarlet fever, 54, and 1 death; typhoid fever, 35, and 6 deaths. There were also 2 deaths from cerebrospinal meningitis.

PHILADELPHIA MEDICAL CLUB.

The members of this Club have decided to make application for a charter and have their own club-house. They now number about 500. In the application for the charter the objects of the Club will be stated to be to encourage among its members social intercourse and a free discussion of matters affecting physicians, elevating the standard of medical ethics, aiding in all movements tending to increased professional skill and efficiency in the treatment of disease, and the maintenance of a club-house and library for the use of the members. The officers recently elected were: president, James M. Anders; vice-presidents, Charles W. Burr and G. E. de Schweinitz; secretary, Guy Hinsdale; treasurer, John H. Locke.

Louisville.

HEALTH DEPARTMENT.

The annual report of the health officer for the fiscal year ending Aug. 31, 1899, has just been issued. The estimated population is 226,678; whites, 186,567; colored, 40,111. The death-rate of the whites is 13.93; colored, 23.16; white and colored, 15.32. Dr. Allen asks for a $15,000 appropriation for the maintainance of the Department. With this one inspector would be allowed for each ward in the city, and he be held responsible for the sanitary condition. It would admit of the employment of a chemist and bacteriologist, also a milk and an assistant live stock inspector, and a secretary for the Department alone. The work of the Department in dealing with an epidemic of smallpox is reviewed, about 25,000 free vaccinations being performed. Of the 534 cases reported, 525 were removed to the Eruptive Hospital. Those not removed were too enfeebled to permit of it. There was a mortality of only six in all cases. To prevent the spread, all woollen and cotton fabrics in the room from which a patient was taken were burned, the house fumigated by formaldehyde and all persons in the immediate vicinity vaccinated. The city paid fo articles destroyed. Of all primary vaccinations, 90 per cent proved successful, the results with glycerinated lymph showing less inflammatory condition following.

The appointment of medical inspectors for schools is recommended, also later admission of school children—not until afte the age of 7 years. The statutes of the state, however contro this. It is suggested that provision be made for the free us of diphtheria antitoxin for the poor, and strong recommendations are made for a better and more thorough milk supervision. The possibility of contamination of the city water supply from the sewerage from Lakeland Asylum is suggested. An abattoir is recommended; plumbing inspector; barbershop sanitation; a sanitary record of houses, describing cesspools, wells, condition of plumbing, record of deaths and contagious diseases; public baths; public urinals; water plugs for the flushing of streets and alleys; drinking fountains; the abandonment of public wells; sprinkling streets with crude oil instead of water; regulation of tenement houses; restrictions of second-hand clothing dealers; vegetable growths on streets and side-walks; further restrictions in regard to practice of midwives; receptacles for waste paper and materials on the streets; prevention of avoidable noises; payment for transcribing of health records and certificates; incineration of garbage. The report gives the following statistics: diphtheria placarded, 171; scarlet fever placarded, 323; houses fumigated, 537; dead animals removed by contractor, 5272; milk permits issued, 238; physicians right-of-way badges issued, 310.

Chicago.

A meeting of the Medical Woman's Club was held Tuesday, December 5.

More than 300 physicians have applied to the Civil Service Commission for examination for medical inspectors of schools.

The managers of the Alexian Brothers' Hospital have decided to establish a training school for lay nurses. The course of instruction will be similar to that which has been given for a number of years to the members of the order.

MORTALITY STATISTICS.

During the past week there has been a steady decline of mortality from all acute diseases and especially the communicable. Only deaths from chronic diseases show an increase, and the excess—45—over the week previous is due to these and to deaths from violence. According to the weekly bulletin, the temperature of November was a record breaker. The mean was 45 degrees, the highest in thirty years and seven degrees higher than the November average. Only 1.14 inches of rain fell, instead of the average 2.73. To the former is attributed, by the Bulletin of the Health Department, the decrease in the fatality of the contagious diseases; to the latter is due the generally improved character of the water-supply, with a consequent reduction of the acute intestinal diseases and typhoid fever.

St. Louis.

Dr. Simon Pollak, the oldest and one of the most honored physicians in this city has been seriously ill, but is now convalescing.

Dr. E. W. Lee, Omaha, Neb., who was medical director of the Trans-Mississippi Exposition was recently invited by the management of the St. Louis World's Fair (1903) to present his views on expositions, while passing through St. Louis en route to Europe.

Much has been said in the papers about typhoid fever in this city, but there has been only a little more than the usual number of cases of autumnal fever, and but a small percentage true typhoid, the majority being pernicious types of malarial fever.

HOSPITAL MANAGEMENT.

The medical profession here is becoming aroused to the importance of such modification of hospital management as to secure the services of the best medical talent. Under the existing conditions all the sick in each of the city institutions are cared for chiefly by the internes, who have at best only limited experience, the medical superintendents being largely absorbed with executive duties. It is to be hoped that eventually a permanent medical service will be established in all the large cities—that the subordinates who are appointed after competent examination will be properly paid for the performance of duty, that after a definite term on examination they will be advanced, being first, assistant, then passed assistant, then surgeon. With a sufficient number of physicians on duty in each hospital, better service will be rendered, and the cause of science will be advanced. The St. Louis Medical Society recently appointed a committee to investigate the hospital management in the various cities of the United States, of which Dr. Joseph Grindon is chairman.

Baltimore.

Dr. J. S. Woodward of Sparrow's Point, a suburb of Baltimore, has been fined $50 and costs, amounting to $76.21, for failure to report a case of smallpox last summer, to the State Board of Health.

W. A. Fisher of the Johns Hopkins Medical School is investigating actinomycosis, working on a case which was successfully operated on two weeks ago by Dr. J. T. M. Finney. He is cultivating, in the Hopkins Laboratory, a bacillus removed from the tissues, and inoculating rats and mice with it.

Dr. Howard A. Kelly of the Johns Hopkins University, is much interested in snakes and keeps a considerable collection of poisonous and non-poisonous varieties. Dr. Kelly and Dr. Thos. R. Brown are investigating the subject of snake poisons and their antidotes, and the former proposes writing a book on the snakes of North America.

The Chemical Laboratory of the Johns Hopkins University was damaged by fire, December 4. All the apparatus and chemicals on one floor were destroyed, while the contents of the other floors were injured by water. The walls are still in good condition. The fire is supposed to have originated from an electric wire or spontaneous combustion.

Cincinnati.

Dr. D. E. Weatherhead has been named by the county commissioners as jail physician to succeed the late Dr. L. D. Bramble.

At the last monthly meeting of the Cincinnati Society of Natural History, December 5, Dr. C. R. Holmes delivered an illustrated lecture on "The Eye, Its Evolution and Functions."

Canada.

(From Our Regular Correspondent.)

VACCINATION IN NOVA SCOTIA.

Toronto, Dec. 2, 1899.

At the last meeting of the Medical Society of Nova Scotia, the statement was made that fully two-thirds of the population of that province, under the age of 16, had never been vaccinated, and the statement is vouched for. At any time an outbreak of smallpox might appear there, especially since, in two sections of neighboring provinces, the disease has extended to a considerable extent. In 1886, Montreal suffered from a similar laxity of compulsory vaccination, and hundreds died. Smallpox may not now be so prevalent throughout the world, but it is not by any means extinct; therefore it ought to be kept in check by universal vaccination. Nova Scotia would do well to make this procedure compulsory, but before taking any decisive step in that direction, there ought to be established a proper method of the registration of births. It is a serious and distinct loss to the province, that there is no method for the registration of births, and to properly carry out vaccination such a method is certainly required. A committee was appointed at the aforesaid meeting to bring these two questions to the attention of the local legislature at its next session, and it is stated that that committee has the subject well in hand and will no doubt reap due reward for its labors.

REPORT ON TUBERCULOSIS.

Dr. Farrell of Halifax, who attended the congress on tuberculosis, at Berlin, in the interests of Nova Scotia, has made his report to the Minister of Agriculture of that province. It has been printed in pamphlet form and will be distributed throughout the province for public information. Four of the eleven pages of the report are devoted to a brief synopsis of the work done at the congress, the balance to what Dr. Farrell deems its best results. His opinions are summarized as follows: It is only in the early stages that treatment of any account promises good results; when the disease has fully established itself and the lung tissue is breaking down, the case is hopeless. It is easy to sum up the treatment under four heads: 1. Sunlight, open air, rest, dry soil for the home. 2. A good digestion and contentment. 3. Abundance of strong food, which should be taken to the limit of the digestive powers. 4. Medication of a constructive character, such as iron, cod-liver-oil and the like, with a moderate quantity of wine, beef and other stimulants. The report closes with a suggestion to the Council of Education of the province, that every teacher in the schools of Nova Scotia should be familiar with the substance of the report, which should be communicated to the older pupils and the importance of hygienic principles dwelt on.

Deaths and Obituaries.

John Stanford Sayre, M.D., passed assistant surgeon, U.S.N., died at his home in Monticello, Mo., November 29. He was born Aug. 7, 1857, graduated from Princeton College in 1878, and from the University of Michigan's medical department in 1881. Entering the navy in 1884, he was assigned to the Asiatic squadron, with which he remained until 1896. While on duty in the "Far East" he became widely known for his skill in a cholera epidemic. In 1897, much broken in health, he was retired on a pension, and as a volunteer at the outbreak of the Spanish-American War was assigned to shore duty, and after a year's service was honorably discharged with special mention.

George Dyer Mudd, M.D., died in Baltimore, December 1, aged 73. He was born Nov. 20, 1826. He was graduated in medicine at the University of Maryland in 1848. He had held office at various times as member of both branches of the State Legislature, as postmaster at Bryantown, as deputy surveyor of customs and coroner of Baltimore.

A. Benzing, M.D., who died recently in Muscatine, Iowa, was born in Wurtemburg, and graduated from the University of Tübingen. He came to America at the age of 30, and located in Muscatine in 1871.

George Cary, M.D., Moulton, Me., who was born in that town in 1837, died November 29. He was graduated from the College of Physicians and Surgeons, New York City, in 1866.

W. D. Cone, M.D., Conesville, Iowa, died December 1, at the age of 62 years. He was graduated from the Keokuk (Iowa) Medical College, class of 1867, and from Bellevue the following year.

J. H. Hassenplug, M.D., a graduate of Jefferson Medical College, 1850, and during the Civil War surgeon of the 109th Penn. Vol., died in Philadelphia, November 25.

M. M. Latta, M.D., Goshen, Ind., died suddenly, November 30, aged 77 years. He had practiced medicine in northern Indiana continuously for more than fifty-seven years, and helped to organize the first Elkhart County medical society, in 1845.

Wm. H. Norfolk, M.D., University of Maryland, 1856, died in Baltimore, of heart disease, Nov. 28. Some years ago he had retired from practice. He was in his 65th year.

Granville B. Slough, M.D., Easton, Pa., died November 27, at the age of 61. He was graduated from Jefferson Medical College, in 1861, and during the Civil War was surgeon in the United States Navy.

Samuel Ellis, M.D., Chandler, Okla. Ter., died November 29....Edward P. Fishback, M.D., Magnolia, Ohio, recently, aged 45....John Izard, M.D., Roanoke, Va., November 22, at the age of 45....J. H. Kersey, M.D., Stuart, Iowa, November 28....O. D. LaGrange, M.D., Iowa Falls, Iowa, November 24; he was a graduate of Rush Medical College, Chicago....Edgar Miles, M.D., Sag Harbor (L. I.), N. Y., November 30, aged 75....F. W. Williams, M.D., New York City, died in Colorado Springs, Colo., November 22, aged 40 years....Chas. H. Winans, M.D., Belleville, N. Y., died at Liberty, N. Y., November 22.

Miscellany.

Where Love Is Indeed Blind.—A wedding ceremony in which all participants were sightless, occurred in Cleveland, Ohio, recently, and "love was blind literally, "says the *Oph. Record*, November. The bride and groom were sightless, as was the justice of the peace who officiated, and the members of the orchestra which performed the Lohengrin wedding march, while none of the invited guests could see. To every blind person in Cleveland an invitation to be present had been extended. Not even the beggar of the street corner was excluded, and for one night he mingled with good society and was made happy. The groom was a peddler of notions as was also the bride. A patron of the former, when she heard he desired to marry, offered to give him the wedding, and threw open the doors of her home to all the blind of the city, and with her friends, furnished a home for the young people.

Hydrophobia at Athens.—The Athens Pasteur Institute reports 797 persons treated since its foundation in 1894. Two died during treatment; the disease appeared in five others less than fifteen days after the last inoculation, but forty died during that time, outside, who did not apply for treatment. The incubation varied among the latter, from twenty days to a year; in 57.6 per cent., from 50 to 120 days.

Death-Rates in Cities and States.—According to recent records of the marine-hospital service the most unhealthful town in the United States was Liverpool, N. Y., with a death-rate per 1000 of 44.17—population 1200. Millerstown, Pa., with a population of 1162, reported only one death from any cause in 1898. Homestead, Pa., a city of 10,000, bears away the palm of healthfulness with 27 deaths in the twelvemonth. Cleveland, Ohio, has a death-rate of 13.63; New York City, 19.28; Boston, 20.09; Baltimore, 19.10; Washington, 20.74; Chicago, 14.08; St. Louis, 14.28; San Francisco, 19.41. The twin cities, Minneapolis and St. Paul, had a death-rate of only 9.16, against these New Orleans, 26.91. The most healthful conditions exist in the northwest and the region between the Mississippi River and the Rocky Mountains. Of the states in the less populous regions the following rates are held to be credible: South Dakota, 7.36; Minnesota, 9.08; Wyoming, 8.33; Iowa, 8.83; Colorado, 10.86; California, 16.26.

Serotherapy and Organotherapy Among Ancient Greeks.—Professor Lambadarios of Athens (*Grece Med.*, October) has written an interesting work in which he establishes that our most modern methods of therapeutics were foreshadowed by the ancients. King Mithridates he calls the father of artificial immunization and of serotherapy, as he experimented by taking a small amount of poison each day and thus rendering himself refractory to attempts to poison him. He also concocted an antidote which he took before or with the poison, believing that its action would be annulled by the antidote. It was made of every poison known at that date, including opium, combined with aromatic substances. He became so expert by his experiments on himself and condemned criminals, that physicians applied to him as to a modern Pasteur institute. He also invented serotherapy, in his method of protecting against the bite of venomous serpents, by adding to his antidote the blood of animals fed on vipers. He selected for this purpose geese from the Black Sea, considering them especially refractory to the venom of vipers, as they are accustomed to feed on them. Pliny and others mention the fact that these geese eat vipers. Dioscorides treated hydrophobia by having the subject drink the blood and eat the cooked liver of the dog that had bitten him, and mentions a number of cures thus effected, among them two physicians.

Piorkowski's Method of Early Differentiation of Typhoid Fever.—According to *Deutsche Med. Woch.*, Novembe 26, Piorkowski has now forty cases to report in which he wa able to make the diagnosis of typhoid fever from the third day of the disease to three days after the subsidence of the fever—many times when the Widal test was negative—by means o cultures from loops of the suspected feces, which developed s that the diagnosis was positive in from fifteen to twenty-fou hours. The method was described in the Journal when fi announced (xxxii, p. 616, March 18, 1899), and is the sam now, with some slight modifications: normal urine is kep for a few days at the temperature of the room, until it become slightly alkaline, and is then mixed with .5 per cent. pepton and 3.3 per cent. gelatin, and boiled forty-five minutes in th water-bath. It is then filtered and transferred to test-tube and sterilized the same day for fifteen minutes and the following day for ten. Three plates are then inoculated with 1, and 5, and 2, 4, and 6 loops respectively, with the medium thu prepared, and solidified on ice when they are transferred t the thermostat, kept at 21.5 to 22 C., and in fifteen to twenty four hours the colonies of the typhus bacteria appear as generally oblong, small, clear, flagella-like colonies, gradually becoming more yellowish, rounder, finely granulated and surrounded by a delicate, characteristic tangle of tendrils sent out in spiral form into the gelatin. The colonies of the coli bacilli are sharp-edged, coarsely granulated, darker in color and always larger. Schütze confirms Piorkowski's statements with his experience in six cases, and considers the method as "of remarkable, even decisive, importance in establishing a positive diagnosis in the early stage of typhoid fever." Unger also reports twelve cases thus diagnosed. The method failed in two other cases, probably because the urine was too intensely alkaline. Piorkowski warns that if the general temperature is over 21 C. (70 F.), the gelatin will not solidify unless the proportion is increased to 6 per cent. H. Wittich confirms Piorkowski's statements after careful research, but supplements them by announcing the important fact (*Cbl. f. Bakt.*, October 28) that the bacillus coli on this medium occasionally develops exactly like the typhoid bacillus, deceptively simulating the characteristic typhoid colonies described, and only to be distinguished by a faint indol reaction, pink color, curdling of milk and production of gas with .25 to .5 per cent. grape-sugar bouillon. Consequently the differentiation is not complete until the colonies have been submitted to these familiar negative tests for the typhoid bacillus.

Feeding Children of Weak Digestion.—The November number of *Archives of Pediatrics* says: "The general practitioner is still altogether too prone to give ready-made foods, and to fall back upon that stronghold of ignorance, that 'there are many children who can not take milk.'" The writer refers to the error of prescribing too strong mixtures for children whose digestive power is below the average, and says: "The key to success lies in putting the strength of the mixture down to so weak a point that the child can digest it, and to then gradually work up to the point of tolerance. It is best in many of these cases to put the strength down at once to 1.5 per cent. of fat, and .75 per cent. of proteids, or even lower. The sugar strength is of less importance. The strength of the mixture should then be changed every two or three days until is has reached a satisfactory point." Many specialists in feeding these children of weak digestion "put the mixture down to very small percentages, notwithstanding the fears of the mother that the child will not get sufficient food. This is, moreover, the secret of the easy digestion of condensed milk. In a one-in-twelve dilution of condensed milk, the strength most commonly used, we have a food that contains but one-eighth the amount of fat and one-third the amount of proteid found in normal breast milk. The fact that children do no worse on these excessively weak condensed milk mixtures is but one of many proofs that they commonly receive more food than they require. If the doctor who is wedded to the use of condensed mlk would not make his fresh milk mixtures four or five times as strong as his condensed milk mixtures, he would be much better satisfied with fresh milk."

Distribution of Anthrax in Ontario.—Dr. W. T. Connell, professor of pathology, Queen's University, Kingston, Ont., has been giving some attention to the consideration of this subject during the past summer; and in a paper read at the annual meeting of the Association of Executive Health Officers of Ontario, gave the results of his work. As has been generally believed, anthrax is not so uncommon in this province, although it has only been proven to exist in certain districts. He is of the opinion that some of the fatal illnesses found in cattle, and looked on as inflammation, dropsy, etc.—terms which mean nothing to the scientific investigator—are anthrax. In the province of Ontario, we have at the present time four recognized centers where the disease has been proven to exist: Guelph, Acton, Listowel and Kingston. It was first recognized as occurring in the flat lands along the Speed River below Guelph, between forty and fifty animals dying there during the summers of 1886 and 1887. At that time it was thought that the infection was derived from some foreign wool used in the woolen mills at Guelph, the washings making their way into the infected flats along the river mentioned. The next outbreak noted was at Acton, where, in 1891 and 1892, evidence was produced before a committee of the Provincial Board of Health showing that here, for thirty-five years, the waters from the tanneries had drained into low lands lying on either bank of a small stream which ran through the village. In one of these tanneries hides were used which had been imported from the Argentine Republic, where anthrax is known to be particularly common. This past summer there have been two outbreaks of the disease in two different localities situated some three hundred miles apart, viz., at Listowel and on two farms in the immediate vicinity of Kingston, but some distance apart. At the former town there was evidence of the existence of the disease for some years back, but only this summer was it positively recognized, when a bacteriologic examination was made. The veterinarians in that district differed in their opinions, one tracing the trouble to polluted water, and the other calling it anthrax. In Kingston it was variously termed as weed poisoning, arsenic poisoning, acute peritonitis and pleuritis, inflammation, dropsy, etc. At Listowel the cases occurred on lands traversed by a small creek into which the washings from both a tannery and a woolen mill emptied. Nothing was said as to the source of the wool or hides used. On one of the farms near Kingston, the disease has occurred annually for eleven years; on the other the cases which occurred this summer are the first noted. On the first farm the disease was first noticed in animals pastured on a point of land across the road from the main farm, this point being now Lake Ontario Park. This summer, however, it occurred in the animals pastured there as well as on the main farm. Twenty-five years ago a tannery was operated there, and as they used imported hides, it is inferred that the seeding of this point of land occurred at that time. On the second farm, the investigator was at sea in ascribing a cause for the seeding of this farm. It is one-half mile from the first farm, and no communication could be established between the farms whereby the second could become seeded. On the first, during the past eleven years, 42 head of cattle have died, 5 of them dying this year, as also one horse, and only one cow attacked this year recovered. On the second farm, four cows and one horse have died. Dr. Connell states that he had the opportunity of examining one of the cows post-mortem, and both horses. All presented the typical post-mortem appearance of septicemia by intestinal infection with anthrax, as hemorrhages in skin and internal organs—all serous cavities containing bloody serum, one horse having ten gallons of this in the abdominal cavity. A number of cases have occurred in men handling the dead animals, and in the tanneries, but so far as known no fatal ones. As probable sources of the infection we have, in the case of Guelph, woolen mills alone; in the Acton and Kingston outbreaks the tanneries are the only factors; while both are combined in the Listowel outbreak. Dr. Connell thinks that measures should be taken to prevent further seeding from these outside sources; and to root out the disease in the now infected areas.

Progress of the Plague.—In view of the progress of the bubonic plague, the U. S. Marine-Hospital Service has taken measures to prevent its introduction into this country. Fifteen officers of this bureau have been detailed for service in foreign seaports, and three are already on duty at Cadiz and Barcelona, Spain, and Naples, Italy. The other officers are to be stationed at London, Liverpool, Southampton, Queenstown, Glasgow, Havre, Hamburg, Genoa, Antwerp, Rotterdam, Bremen and Marseilles. These officers will inspect all vessels bound for the United States and keep the bureau advised as to the sanitary condition of the various cities. The Marine-Hospital Service reports 1 case of plague at Alexandria, Egypt, November 16, 7 cases and 4 deaths at Kurrachee, India, October 21-24, and 1 suspect case at Cadiz, Spain, November 27. The press dispatches from Yokohama, dated November 16, state that the disease has made its appearance in Kobe, Japan; 5 cases are reported, of which 3 were fatal. The pest is traced to cotton imported from China. Only two cases have been recently reported from Brazil and the sanitary conditions are somewhat uncertain. Advices state that Dr. Havelburg at Rio Janeiro believes the plague was probably introduced into Santos by means of the ship *Rei de Portugal*, which sailed from Oporto, Portugal, July 31. The mode of conveyance of the disease to the shore was by rats, among which a great mortality existed two or three weeks after the arrival of this vessel. During the week ending November 9, 87 new cases and 72 deaths were reported at Mauritius. Three cases occurred on the Austrian Lloyd steamer from Brazil to Europe. Chantemesse was sent to study some suspicious cases, but cultures proved negative. As a precautionary measure he had sections of the sewers stopped up and substances burnt in them to destroy the rats. The sewers were then flooded and the carcasses washed into trenches. Dr. G. Daremberg, in a communication to the Paris *Journal des Debats*, states that the Anglo-Boer war will probably spread the plague throughout the world. Soldiers are being sent to South Africa from infected regions in India and elsewhere, and a campaign offers the most favorable conditions for the spread of an infectious disease. The *Journal de Med. de Paris* observes: "What would become of the Exposition of 1900 if a single verified case of the plague were to occur in France?" Too much reliance, it continues, must not be placed on the serum treatment, which has not yet been thoroughly tested, nor on childish attempts to kill off the rats. Chantemesse was sent to study the suspicious cases in Algiers and found them probably true plague but mild and confined to the locality, no new cases for three weeks. [The *Lancet* of November 23 states that the cultures resulted negatively.—Ed.] But the plague is in Egypt, Austria and Turkey. A number of deaths occur daily in Portugal. It is slowly but surely gaining all the Mediterranean ports. Besides destroying the rats, the sanitary conditions of exposed towns must be made as perfect as possible with the most searching scrutiny of arrivals at French ports. At the meeting of the Board of Health, New York City, December 1, a resolution was adopted to the effect that under no circumstances would the docking of the *J. W. Taylor*, which ship arrived in New York with plague on board, as previously noted in the Journal, be permitted, and that should the cargo be landed within the limits of the city it would be taken possession of by the Department, for examination and, if deemed necessary, condemned. It was also decided that the coffee brought on board the vessel would not be permitted to land at any pier in the city until the Board of Health had passed on the condition of the lighters to which it was transferred. The steamer *Roman Prince*, which arrived from Santos, Brazil, November 27, was quarantined, although no illness occurred on board during her voyage.

Crede Expulsion of Placenta and Ovarian Disease.—In *Obstetrics* for November, an editorial writer adds a new evil to those usually attributed to results of child-bearing, and largely unnecessary. He says that it is the rule for physicians to compress the fundus uteri in the third stage of labor, either to assist or hasten the expulsion of the placenta. "The amount of compression applied is frequently very great, generally gauged by the results obtained in causing the placenta to loosen. If the compression is applied to the fundus 'fore and aft,' the most injury it may cause will be temporary paresis of the uterine muscle and a mashing of the placenta without separation. The latter in turn may cause portions of the placenta to remain behind when most of it has been expelled. But if instead the man of power, in his hands but not his brains, should grasp the uterus *laterally*, his fingers and thumb may readily embrace the ovaries to their temporary pain and lasting injury. The force often applied in compression is sufficient to actually crush these egg-filled bodies." The tubes may also be ruptured.

Tetany from Exposure to the Sun.—In the *British Med. Jour.*, November 25 (p. 1474), Fox reports a case of this affection in a male of 13 years. He had been sitting in the sun all the preceding afternoon, and on reaching home complained of headache and vomited, was sent to bed, and woke up about 5 a.m., complaining of pains in his arms and legs, and that he could not move. The hands and feet were rigidly contracted in the position met with in tetany, and he was quite unable to move them. His knee-jerks were markedly exaggerated. He was very nervous and frightened, but apart from the condition of his hands and feet appeared in good health. There was not, nor has there been, any gastric or intestinal trouble. He was treated with a calomel purgative and 10-gr. doses of ammonium bromid every four hours. The spasms gradually relaxed, but it was five days before he could walk or use his hands properly. The case is of interest on account of the age of the patient and the total absence of any cause for the attack other than exposure to the sun, a somewhat unusual, or at least undescribed, cause of tetany.

Suggested Legislation for the Army Medical Department.—The following is the text of the bills, referred to in our editorial columns, which embody the views of the surgeon-general of the army, concerning the needs of his corps:

Bill for the increase of the Medical Department of the Army: Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Sec. 1. That there shall be added to the number of medical officers of the army now authorized by law, 4 assistant surgeons-general with the rank of colonel, 10 deputy surgeons-general with the rank of lieutenant colonel, 30 surgeons with the rank of major, and 80 assistant surgeons with the rank of first lieutenant who shall have the rank of captain at the expiration of five years' service as now provided by law. Provided that the original vacancies created by this act in the grade of colonel, lieutenant colonel and major shall be filled by seniority promotion in accordance with established laws and regulations.

Sec. 2. Hereafter candidates for appointment in the medical corps of the army who pass a medical examining board in compliance with existing regulations shall be appointed acting assistant surgeons for a probationary period of six months; during this probationary period they shall attend the Army Medical School established at the Army Medical Museum in the City of Washington, and the faculty of the Army Medical School shall report to the Secretary of War at the end of the prescribed course of instruction upon the fitness and relative standing of the probationary candidates; those who are recommended by the faculty may then be commissioned by the President to fill existing vacancies in the medical corps of the army.

Sec. 3. Acting assistant surgeons appointed in accordance with the provisions of Section 2 shall be paid $100 per month and shall not be entitled to any allowances or to mileage in reporting for the prescribed course of instruction, or in returning to their homes if they are not recommended for a commission.

Sec. 4. The number of acting assistant surgeons appointed in accordance with the provisions of Section 2 shall not exceed the number of vacancies existing or to result from retirements during the probationary period.

Sec. 5. Candidates who have rendered satisfactory service as acting assistant surgeons or as commissioned medical officers in the volunteer army of the United States for a period of six months or more, shall be exempted from this period of probation and may be commissioned at once if vacancies exist and they pass a satisfactory examination as to their physical, moral and professional qualifications.

Bill for the Relief of Assistant Surgeons with the Rank of Captain in the Volunteer Army of the United States: Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled,

That assistant surgeons in the Volunteer Army of the United States, commissioned by the President as captains, in accordance with the provisions of an act for increasing the efficiency of the Army of the United States and for other purposes (approved March 2, 1899), are entitled to the pay of a "Captain mounted," from the date of their acceptance of such commission as prescribed by law.

Bill for the Relief of Acting Assistant Surgeons in the U. S. Army: Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Sec. 1. That on and after the passage of this act acting assistant surgeons in the Army of the United States shall have the same rights and privileges as regards leaves of absence as commissioned officers of the army.

Sec. 2. Acting assistant surgeons in the Army of the United States, who have been appointed since the first day of May, 1898, who have been absent from duty, by proper authority, on account of sickness contracted in the service, shall be paid for the time of such absence at the rate per month specified in their contracts.

The Public Service.

ON THE ARMY RATION.

Articles have appeared recently in the public press criticising the army ration, denouncing its unsuitability for troops in a tropical climate and urging a radical change in its character. These articles are based on the elementary propositions that while fatty foods are good where a high development of animal heat is required, they are harmful in a climate where there is no call on the system for a large heat production. Every reader is willing to grant these propositions. They are simple and can be verified every summer and winter by the inhabitants of the north temperate zone. There are 12 ounces of bacon in the army ration, and this is no doubt an excess of fat for a dietary in the tropics. But it does not follow that the army ration should therefore be changed. The critics who see so clearly that the ration should be altered to suit their views of what is right and proper to be eaten in tropical climates and who are astounded at the dulness of those army officials who think it wise to be slow in doing anything of this kind do not appear to know that the ration is run on a broader gauge than the elementary propositions which form the basis of their argument.

There is in the the Army of the United States a considerable difference between the ration of the soldier and the diet of the soldier. The critics of the army ration do not understand this. The ration is the allowance for subsistence of one person for a day. The diet is what is actually prepared in the kitchen for consumption by the soldier day by day. The ration is prescribed by law and consists of the meat, the bread, the vegetable, the fruit, the coffee and sugar, the seasoning and the soap and candle components.

The meat component does not consist of fat pork or bacon, as those who know nothing of the domestic economy of army kitchens appear to believe. On the contrary there is some variety in the meat component. It consists of 20 ounces of fresh beef, *or* 20 of mutton when the cost does not exceed that of beef, *or* 12 of pork, *or* 12 of bacon, *or* 22 of salt beef, *or* 14 of dried fish, *or* 18 of pickled fish, *or* 20 of canned salmon, *or* 18 of fresh fish.

The bread component consists of 18 ounces of flour, with baking powder when the men have to bake their own bread, *or* 18 ounces of soft bread, *or* 16 of hard bread, *or* 20 of cornmeal.

The vegetable components consist of 2 2-5 ounces of beans, *or* the same amount of peas, *or* 1 3-5 ounces of rice, *or* the same amount of hominy AND 16 ounces of potatoes, *or* 12 4-5 ounces of potatoes and 3 1-5 of onions, *or* 11 1-5 of potatoes and 4 4-5 of canned tomatoes, *or* 4 4-5 ounces of other fresh vegetables, not canned, when they can be obtained in the vicinity or transported in a wholesome condition from a distance.

The fruit component consists of 2 ounces of dried fruit, such as prunes, peaches, or apples. The other components consist of coffee green or coffee roasted, *or* tea green, or tea black, *and* sugar, *or* molasses *or* cane syrup; vinegar, salt and black pepper, and to these are added the soap and candle components.

The slightest knowledge of practical cookery will enable anyone who reads the above to form an idea of what may be called the flexibility of the army ration. The soldier in the tropics is not called on to eat his 12 ounces of bacon *or* go hungry. This *or* is not to be found in the regulation statement of the meat component of the ration, although there are more than half a dozen other important *ors* in it. And there is a variety also in all the other constituents except the soap and candle components.

If the scientist will calculate the elementary constitution of any one of the various diets which may be formed from the flexibility of the army ration, he will find that there is a sufficiency of nitrogen and carbon in each to support the system of the soldier under the heaviest strain of work and exposure. If the proximate principles be calculated, it will be found that many variations may be made in the relative proportions of proteids, hydrocarbons and carbohydrates. But more than all this we *know* that the soldiers of the United States have never gone hungry on their full ration.

Granted then that the ration suffices to sustain the system in the cold of a Montana blizzard, will any one suggest its insufficiency for nutritive purposes where there is little call for physiologic fuel to keep up the animal heat? No. "but," says the critic, for whose information I am writing, "there is too much of the hydrocarbons, too much bacon in the ration to make it a suitable ration for tropical climates." Too much bacon! Too much candle! There is a candle component in the ration but the soldier is not called on to eat it. Nor is he required to eat the bacon if he does not desire to do so.

This leads me to refer to the elasticity of the ration. Its flexibility has already been referred to; but its elasticity also is wonderful. It is so elastic that the soldier may verily eat his candles if he does not require them for other purposes. He may leave the candles in the hands of the subsistence department and if their money value will pay for a can of peaches, or a pound of rice, or so much of any other of a long list of articles kept for sale by the subsistence officers, he can eat his candle component in the form of peaches or rice or any of the other purchasable things. So with the bacon. He is no more required to eat that because it is part of the ration than he is required to eat the candles, but he may transform it into some other article of food which he likes better or which is better for him under the climatic conditions which affect him at the time. So, indeed, with all the other components of the ration excepting only the fresh vegetables, fresh bread, baking powder and dried fruit. Even the fresh beef component may be reduced in quantity and the money value of the quantity not issued for use may be drawn in other articles of sales.

There is even a greater elasticity than this to the rations, for the money credit for components not drawn and used may be applied to the purchase of articles from outside sources, articles not kept for sale by the subsistence department. Thus in probably every company and post mess-hall in the United States, on Thursday, Nov. 30, 1899, there was turkey, with cranberry sauce, on the table, representing so much bacon and other articles of the formal ration not drawn in kind and used but left in the hands of the subsistence department and placed as a cash credit for the payment of turkeys and cranberry sauce or of any other purchase to vary the diet of the soldier. If at any of the posts they did not have turkey and cranberry sauce on that day it was because these things were impossible there but they no doubt had an excellent dinner all the same.

Under the present law and regulations as to the ration, the soldier can have any variation of his diet within certain money value limits which his officers consider necessary for his wellbeing. His ration is fixed by law and it is a most liberal one; but his dietary depends on the intelligent supervision of company officers and the ability of the company cooks. I have stated the law and regulations concerning the ration and its flexibility and elasticity, and the subsistence department may be depended upon to provide the articles necessary to vary the diet. If a change in the dietary is advisable it lies with the company commanders to carry it into effect.

If the change is desirable on medical grounds, medical officers should communicate their views to those responsible officers and the change can be effected without difficulty. There is no need to talk about changing the ration to effect a change in the dietary.

But it may be said why not go a step farther and reduce the ration to simpler terms? Why not make it a money value instead of so much of this, that and the other component? A money value to be of equal value at all military stations would have to be a different value at every station. A dollar is worth nothing from the point of view of the ration if there is not a bite of anything within its purchasing radius: but to the stomach of a hungry soldier 20 ounces of fresh beef, 12 ounces of bacon, etc., have a fixed value and when the subsistence department is charged with providing these articles the soldier will fare much better than if the department had only to provide him with so many cents a day for his food.

The United States Army ration is the most liberal ration in the world. It is the best ration for the far northwest of this continent whence come the subzero cold waves to sweep over the country from the upper strata of the atmosphere, and it is the best for the tropics when intelligently utilized. It is the product of the experience of several generations of army officers, and it is the part of wisdom to be slow in urging alterations at the suggestion of people who know that an excess of fatty food is not suitable for a dietary in the tropics and who have just discovered that there are 12 ounces of bacon in the soldier's ration.

But the best dietary for the tropics is a wholly different subject from the ration and we will await with interest the publication of the observations of our officers, line and medical, on the modifications which appear to them to be judicious for Cuba, Porto Rico and the Philippines.

Charles Smart,
Lieut-Col. and Deputy Surg-Genl. U. S. Army.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from November 23 to and including Nov. 29, 1899:

James E. Hepburn, acting asst.-surgeon, sick leave extended.

Carl R. Hexamer, acting asst.-surgeon, from Stamford. Conn., to the Department of California.

John F. Jones, acting asst.-surgeon, from Leroy, Ill., to the Department of California.

G. A. McHenry, acting asst.-surgeon, sick leave extended.

Allen D. McLean, acting asst.-surgeon, to examine recruits at Detroit, Mich., in addition to his duties at Fort Wayne, Mich.

Frederick H. Morhart, acting asst.-surgeon, from Washington, D. C., to duty in the Department of California.

William Henry Oates, acting asst.-surgeon, from Mobile, Ala., to duty in the Department of California.

Frederick P. Reynolds, captain and asst.-surgeon, U. S. A., from New York City to duty in the Department of California.

Starling S. Wilcox, acting asst.-surgeon, from Columbus Barracks, Ohio, to the Department of California.

John Mason Williams, acting asst.-surgeon, from the Department of California to Louisville, Ky., for annulment of contract.

Paragraph 18 of Special Orders 202, August 29, 1899, appointing a board of medical officers to meet on the hospital ship, *Missouri*, at Manila, P. I., is revoked.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for two weeks ending December 2, 1899:

Surgeon L. G. Heneberger, ordered to temporary duty, November 23, in connection with the recruiting rendezvous, Detroit, Mich.

P. A. Surgeon H. N. T. Harris, ordered to New York City December 4, for examination for promotion, and then home and to wait orders.

Medical Inspector M. H. Simons, ordered to the naval recruiting rendezvous, 177 Main Street, Buffalo, N. Y.

Medical Inspector A. F. Price, ordered to be examined for promotion at Washington, D. C., November 28, and then to wait orders.

Surgeon G. P. Lumsden, detached from the naval recruiting rendezvous, Buffalo, N. Y., and ordered home to wait orders.

Medical Inspector D. Dickinson, detached from the naval hospital, Washington, December 1, and ordered home and to wait orders.

Medical Inspector A. F. Price, ordered to the naval hospital, Washington, D. C., December 1.

Asst.-Surgeon F. B. Hancock, resignation accepted to take effect from November 25.

P. A. Surgeon B. R. Ward, ordered to the *Independence*, December 15.

Asst.-Surgeon J. S. Taylor, detached from the *Independence*, December 15, and ordered to the *Scindia*, December 31.

Asst.-Surgeon E. Davis appointed asst.-surgeon November 21.

Surgeon G. P. Lumsden, ordered to temporary duty on the *Franklin* December 1, during absence of P. A. Surgeon J. A. Guthrie, on leave; thence home and to wait orders.

P. A. Surgeon J. Stoughton, order of October 14, detaching from the *Yorktown* and ordering to the *Bennington*, revoked.

Asst.-Surgeon D. G. Beebe, order of October 14, detaching from the *Bennington* and ordering to *Ranger* revoked.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commmissioned officers of the U.S. Marine-Hospital Service, for the two weeks ended Nov. 30, 1899.

Surgeon H. R. Carter, to report at Washington, D. C., for special temporary duty.

Surgeon D. A. Carmichael, leave of absence for 30 days granted by Bureau letter of Aug. 23, 1899, revoked.

Surgeon G. M. Magruder, relieved from duty at Memphis, Tenn., and directed to report at Washington, D. C., for special temporary duty.

P. A. Surgeon H. D. Geddings, to proceed to New York City for special temporary duty.

P. A. Surgeon A. C. Smith, to report at Washington, D. C., for special temporary duty, Nov. 20, 1899. To rejoin station at Norfolk, Va.

Asst.-Surgeon S. B. Grubbs, relieved from duty at Cienfuegos, Cuba, and directed to report at Washington, D. C., for special temporary duty.

Asst.-Surgeon D. E. Robinson, relieved from duty at Mobile, Ala., and directed to proceed to Memphis, Tenn., and assume command of the service.

Asst.-Surgeon F. J. Thornbury, relieved from duty at New York City (Immigration Depot) and directed to proceed to San Francisco, Cal. for duty and assignment to quarters.

Acting Asst.-Surgeon J. E. Bready, granted leave of absence for seven days.

Acting Asst.-Surgeon F. M. Clarke, granted leave of absence for 10 days from November 20.

Acting Asst.-Surgeon D. E. Dudley, Department letter of Oct. 31, 1899, granting Asst.-Surgeon Dudley leave of absence from Nov. 1, 1899, amended so that said leave shall date from November 16.

Acting Asst.-Surgeon F. R. Smyth, granted leave of absence for four days.

Hospital Steward John Achenbach, relieved from duty at Fort Townsend, Wash., and directed to report to the Port Townsend Quarantine station, Wash., for duty.

Hospital Steward G. H. Brock, relieved from duty at New Orleans, La., and directed to proceed to Cincinnati, Ohio, for duty and assignment to quarters.

Hospital Steward M. McKay, relieved from duty at Boston, Mass., and directed to proceed to New York City (Stapleton) for duty and assignment to quarters.

Hospital Steward G. C. Allen, relieved from duty at New York City (Stapleton) and directed to proceed to the Delaware Breakwater Quarantine station for duty and assignment to quarters.

Hospital Steward F. H. Peck, relieved from duty at Baltimore, Md., and directed to proceed to New Orleans, La., for duty and assignment to quarters.

Hospital Steward E. T. Olsen, to rejoin station at Wilmington, N. C.

Hospital Steward R. F. Troxler, relieved from duty at San Francsco, Cal., and directed to proceed to Port Townsend, Wash., for duty and assignment to quarters.

Surgeon C. T. Peckham, granted leave of absence for four days.

Surgeon A. H. Glennan, relieved from duty as quarantine officer at the port of San Juan, Porto Rico, and directed to proceed to New Orleans, La., and assume command of the service.

Surgeon W. J. Pettus, relieved from duty at the Cape Charles Quarantine station, and directed to proceed to Cleveland, Ohio, and assume command of the service.

P. A. Surgeon A. C. Smith, relieved from duty at Norfolk, Va., and directed to report at Washington, D. C., for special temporary duty.

P. A. Surgeon W. G. Stimpson, to rejoin station at St. Louis, Mo.

P. A. Surgeon J. M. Eager, relieved from duty at Detroit, Mich., and directed to proceed to Cincinnati, Ohio, and assume command of the service.

P. A. Surgeon J. H. Oakley, relieved from duty at Evansville, Ind., and directed to report at Washington, D. C., for special temporary duty.

P. A. Surgeon E. K. Sprague, relieved from duty in the Hygienic Laboratory, Washington, D. C., and directed to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty.

P. A. Surgeon A. R. Thomas, relieved from duty at the Reedy Island Quarantine station, and directed to report at Washington, D. C., for special temporary duty.

P. A. Surgeon H. W. Wickes, relieved from duty at Cleveland, Ohio, and directed to report at Washington, D. C., for special temporary duty.

P. A. Surgeon J. B. Greene, to report at Washington, D. C., for temporary duty. To rejoin station at Boston, Mass.

Asst.-Surgeon H. S. Mathewson, relieved from duty at the San Francisco Quarantine station ,and directed to report at Washington, D. C., for special temporary duty.

Asst.-Surgeon C. H. Lavinder, relieved from duty as quarantine officer at the port of Ponce, Porto Rico, and detailed as quarantine officer at San Juan, Porto Rico.

Asst.-Surgeon H. C. Russell, relieved from duty at Cairo, Ill., and directed to proceed to Boston, Mass., for duty and assignment to quarters.

Asst.-Surgeon R. H. von Ezdorf, to rejoin station at New Orleans, La.

Asst.-Surgeon L. D. Fricks, to report at Washington, D. C., for temporary duty.

Asst.-Surgeon M. K. Gwyn, relieved from duty at Boston, Mass., and directed to proceed to Chicago, Ill., for duty and assignment to quarters.

Asst.-Surgeon G. M. Corput, to report at Washington, D. C., for special temporary duty.

Asst.-Surgeon T. F. Richardson, relieved from duty as quarantine officer at the port of Nuevitas, Cuba, and directed to proceed to the Reedy Island Quarantine station and assume command of the service.

Asst.-Surgeon W. W. King, relieved from duty at New Orleans, La., and assigned to duty as quarantine officer at Ponce, Porto Rico.

Assistant Surgeon A. W. Korn, relieved from duty at Chicago. Ill., and directed to proceed to Evansville, Ind., and assume command of the service.

Asst.-Surgeon J. M. Holt, relieved from duty at St. Louis, Mo., and directed to proceed to Cairo, Ill., and assume command of the service.

Asst.-Surgeon Elmer R. Edson, to proceed to St. Louis, Mo., for duty and assignment to quarters.

Asst.-Surgeon Clarence W. Wille, to proceed to Boston, Mass., for duty and assignment to quarters.

Asst.-Surgeon John W. Amesse, to proceed to Detroit, Mich., for duty and assignment to quarters.

Asst.-Surgeon Robert L. Wilson, to proceed to San Francisco, Cal., for duty and assignment to quarters.

Acting Asst.-Surgeon B. J. Brown, Jr., granted leave of absence for three days.

Acting Asst.-Surgeon John Frick, relieved from duty at Santiago, Cuba, and directed to proceed to Havana, Cuba, for duty.

Acting Asst.-Surgeon J. M. Lindsley, detailed as quarantine officer at the port of Cienfuegos, Cuba.

Acting Asst.-Surgeon Owen W. Stone, detailed as quarantine officer at the port of Nuevitas, Cuba.

APPOINTMENTS.

Elmer R. Edson of Indiana, Clarence W. Wille of Pennsylvania, John W. Amesse of Michigan, and Robert L. Wilson of Texas, commissioned as assistant-surgeons.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Dec. 1, 1899:

SMALLPOX—UNITED STATES.

Illinois: Cairo, November 21, 2 cases.
Louisiana: New Orleans, November 18 to 25, 6 cases.
Massachusetts: Chelsea, November 18 to 25, 1 case.
Ohio: Cleveland, November 18 to 25, 8 cases.
Tennessee: Nashville, November 18 to 25 3 cases.
Virginia: Portsmouth, November 18 to 25, 5 cases, 2 deaths.

SMALLPOX—FOREIGN.

Austria: Bohemia, Prague, October 28 to November 4, 7 cases.
Belgium: Antwerp, October 28 to November 4, 7 cases, 2 deaths.
Brazil: Rio de Janeiro, October 12 to 20, 93 cases, 67 deaths.
Canada: Ontario, November 10, 20 cases; Quebec, August 21 to November 27, 138 cases, all in Kamouraska County.
Mexico: Mexico, October 29 to November 5, 3 cases, 2 deaths; Vera Cruz, November 8 to 24, 4 deaths.
Russia: Moscow, October 22 to 28, 2 cases, 1 death; Odessa, October 28 to November 4, 1 case; Warsaw, October 22 to November 4, 7 deaths.
Turkey: Constantinople, October 25 to November 6, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, October 12 to 20, 3 deaths.
Cuba: Havana, November 16 to 23, 10 cases, 4 deaths; Puerto Principe, November 18, 1 case, soldier.
Mexico: Vera Cruz, November 8 to 24, 3 deaths.

CHOLERA.

China: Hongkong, October 1 to 7, 2 cases, 1 death.
India: Kurrachee, October 15 to 21, 1 death.
Japan: Yokohama, October 7 to 14, 1 case.

PLAGUE.

Egypi: Alexandria, Nov. 6,.1 case.
India: Kurrachee, October 14 to 21, 7 cases, 4 deaths.
Spain: Cadiz, November 27, 1 suspect case.

CHANGE OF ADDRESS.

Arnold, J. D., from 530 Sutter to 1296 Van Ness, San Francisco, Cal.
Beach, J. C., from 327 State St. to 3007 Cottage Grove Ave., Chicago.
Du Bois, J. A., from Sauk Center, Minn., to Greenwich, Conn.
Dinwoodie, Wm., from 975 Reaney to 698 Arcade, St. Paul, Minn.
Davidson, T. W., from Abingdon to Fairview, Ill.
Goodwin, H. F., 59 S. Hermitage to 214 Marshfield Ave., Chicago.
Goldnamer, W. W., from 3454 Indiana to 103 State, Chicago.
Harbeck, J. H., from Boulder, Colo., to Cuernaraca, Mexico.
Hoxie, W. E., from Garner to Belmond, Iowa.
Hoelcher, J. H., from 284 Belden Ave. to 1669 Sheridan Road, Chicago.
Hawkes, W. H., from 734 17th St., N. W., to 1317 Columbia Road, Washington, D.C.
Irwin, E. A., from Cook County Hospt. to People's Inst. Bldg., Chicago.
Jenckes, H.D., from Jasper to Pipestone, Minn.
Jones, C. C., from John Sealy Hospt. to 2117 Market St., Galveston.
Leenhouts, A., from Chicago to Holland, Mich.
Lambright, S., from South Lebanon to Lees Creek, Ohio.
Morton, G., from 14 E. 11th to 707 Highland, Kansas City, Mo.
McNamara, J. G., from 366 Wabasha to 396 Endicott Arc., St. Paul, Minn,
Perry, T. B. from Titusville, Fla., to U. S. Marine-Hospital Service, Baltimore, Md.
Rogers, W. B., from Chicago to Oakwood Sanitarium, Lake Geneva, Wis.
Richter, L. M., from Bethany, Mo., to 701½ S. Broadway, Los Angeles, Cal.
Sewell, S. G., from New Burlington to Greenville, Ohio.
Straley, S. B., from Andover, N. J., to Cocoa, Fla.
Tinker, M. B., from 2131 N. 16th to 2228 N. 17th, Philadelphia, Pa.
Verbryck, G. G., from Cambria to Green River, Wyo.
Wright, John, from Clinton, Ill., to Roseburg, Ore.
Westbrook, M. H., from Cleveland to Olmstead Falls, Ohio

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Address.

N LATENT INFECTION AND SUBINFECTION, AND ON THE ETIOLOGY OF HEMOCHROMATOSIS AND PERNICIOUS ANEMIA.*

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I can remember, as well as though it were yesterday, itting in the large bacteriologic laboratory at the Intitut Pasteur, close upon ten years ago, and hearing Roux, that clearest of lecturers, recount step by step the ascinating story of the discovery of the anthrax bacillus nd the elucidation of the etiology of splenic fever—he history, in short, of the establishment of bacteriology s a science directly bearing on disease. More especially here remains vividly impressed upon me the almost aradoxic point which Roux then made, that mistaken acts and incomplete observations accepted as facts may e of temporary benefit and may aid advance. As Roux ointed out, the most clinching argument brought forvard by Davaine, in favor of regarding the anthrax acillus as the active agent in infection, was that if a regnant sheep or cow died of the disease, the maternal lood, which contained abundant bacilli, was capable of ausing the disease in other animals, whereas the blood f the fetus, which he found free from germs, was abolutely harmless, even when inoculated in large quantiies. We now know that the fetal blood in infectious diseases is not necessarily free from the germs of those iseases; the fetus may suffer from the same infection s the parent. Davaine himself, and those attempting o repeat his observations, might have obtained different esults; nevertheless, in the then state of bacteriologic cience, no surer demonstration of the pathogenetic power of the bacilli could well have been adduced. So also t a later date, when pure cultures of the germ had been ained, the observation made by Pasteur—and the French Commission, of which Roux was a member—that if a broth culture be made of the anthrax bacilli and then the bacilli be filtered off and the clear filtrate alone be inoculated into animals, no results accrue, whereas a minute mass of the residual bacilli surely when inoculated leads to fatal disease in susceptible animals, afforded a singularly powerful demonstration that infection is directly due to the presence of bacilli. As you know, further researches have shown that in connection with very many infectious diseases the fluid of growth contains abundant toxins and, when inoculated, is able to set up the symptoms of disease, and, indeed, had Pasteur employed larger quantities of the filtrate of an old culture of the anthrax bacilli, fatal symptoms might have developed, reproducing to some extent those seen in the natural disease. Fortunately the fluid of growth in connection with anthrax contains but a relatively small proportion of such toxic substances. Without two such *apparently convincing* demonstrations as those above mentioned, it is doubtful whether the world would have become prepared to accept so radical an idea as that bacteria are the essential agents in infection.

In studying and recalling the history of modern medicine, or more especially of bacteriology, not a few other examples of a like nature come to mind. Thus, for instance, very shortly after the discovery of the typhoid bacillus, it was pointed out by numerous observers that these bacilli were present in the stools in enormous numbers and forthwith, in order to prevent the contamination of the water-supply, there came into almost universal employment the method of disinfecting the stools so as to prevent the extension of the disease. We now know that these earlier observations on the stools were incorrect: that what were found in them were the then undifferentiated colon bacilli. For later observations have shown how difficult it is to detect typhoid bacilli in the feces and how rare it is to discover them after the first fortnight of the disease. But these later observations have also shown that for a period at least they do escape into the feces. Here again, therefore, mistaken observations led to advance, for it is needless to state that, for the health of the public, nothing can be better than the sedulous disinfection of typhoid excreta.

I do not mean, in quoting these cases, to suggest that imperfect observations and premature deductions are commendable. I do but wish to point out that advance in our profession not infrequently follows imperfect knowledge, and that the imperfect knowledge of a great man and a conscientious worker is oftentimes directly productive of good results. We should always keep in mind, as old Sir James Paget indicates in the introduction to his son's "Life of John Hunter"—indicates, though he does not absolutely state it—that facts are not of necessity truths; while true in themselves, they do not reveal the perfect truth; that our science is based on half truths; that however sure we are at a given moment of the facts on which we base our conclusions and determine our treatment, later and fuller studies may well show that those facts are not the whole facts, those truths not the whole truths, and that, just as we, benefiting from the facts accumulated by our predecessors and adding materially thereto, have widely modified the conclusions formed by them and the treatment which they employed, so later generations with fuller knowledge will surely arrive at theories and treatment widely different from ours. "Experience is fallacious and judgment difficult;" we must be prepared as experience grows, to modify our judgment.

Of the generally accepted and basal postulates on which not only is bacteriology founded, but also on which our appreciation and treatment of infection and infectious conditions has been developed, it may safely be said that the foremost, that which has been the fundamental in the application of bacteriologic knowledge to surgery and medicine, has been that in health the organism is free from bacteria, that the tissues are sterile and that infection is due to an abnormal entrance of pathogenetic bacteria into the body. It is on this assumption that antiseptic and aseptic surgery have their basis, and from it we start in order to explain infection. We assume that the skin and the mucous surfaces of the body form a natural barrier beyond which, under normal conditions, bacteria do not pass; that the presence of bacteria in the deeper tissues is the exception and not the rule. We are forced to acknowledge that, occasionally, bacteria gain an entrance without there being a recognizable external lesion, and we speak of disease developing under these conditions as *cryptogenic*—this very term indicating an ignorance as to the exact mode of origin of such disease. Yet the generally received opinion is, as I say, that the presence of bacteria, pathogenetic or otherwise, in the blood, the lymph and the tissues generally, is the exception and not the rule. To the physician, as indeed to the bacteriologist in general, the primary factor in infection is the virulence of bacteria. The protective powers of the tissues, while they may be important, are a secondary factor; the former we can measure with fair accuracy; we have no means whereby to determine the latter with any precision. Having this view, we find it difficult to comprehend phenomena such as phagocytosis, which we are forced to admit come into play in infectious conditions. We see that the leucocytes and endothelial cells take up and destroy pathogenetic bacteria, but find it difficult to understand how these cells can assume functions which apparently are so totally new to them. Indeed, this difficulty in comprehending the assumption of phagocytic properties by the cells of the body has been, I firmly believe, the great obstruction to the ready or general acceptance of phagocytosis as a factor in the arrest of disease.

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*Annual Address delivered before the Society of Internal Medicine. Chicago, Nov. 29, 1899.

It would be absurd to deny that this postulate—that the tissues normally are sterile—has been most valuable. Without it and the theory derived from it modern medicine—I use the term in its broadest sense—would not and could not be in its present position; for working conditions it has been essential. If not true it must be somewhere near the truth, otherwise facts and observations would not confirm in so great a measure thereunto. But is it the whole truth? Does everything prove that normally the tissues are free from bacteria? Are there conditions only explicable by assuming that bacteria habitually or frequently enter the circulation? If we find that there are, it is of no use to fall back on that weak retort, that the exception proves the rule—a retort weak as in general misconstrued and misapplied. The exceptions prove the rule only in a mathematical sense of testing it. In this sense the exceptions assuredly do prove the rule and this evening I wish to test whether certain facts at our disposal confirm this theory and to determine whether possibly a modification of the postulate is not necessary.

If it does happen that bacteria enter the circulation under ordinary conditions, all will agree that the more frequent regions of entrance are likely to be found, not so much in connection with the denser epithelial surface layers of the body, as in connection with the more delicate mucosæ of the respiratory and alimentary tracts. And it is to the latter of these that I shall more especially confine my attention. In connection with this alimentary tract we have very definite evidence that here bacteria may penetrate the protective barrier of epithelial cells, nay more, that they are constantly being taken into the system.

So long ago as 1882 Schäfer[1] pointed out the possibility that leucocytes played some part in carrying fa from the intestines into the interior of the villi, and th following year Zawarykin[2] laid down that fatty globules only gained their entrance into the lymphatics through this intermediation of the leucocytes. My old master, Heidenhain,[3] while doubting whether the globules which Zawarykin saw in the leucocytes between the epithelial cells were truly fat, could not but agree that leucocytes were to be seen frequently and in considerable numbers between the cells. More recently, A. B. Macallum o Toronto,[4] in studying the absorption of iron by the economy, has published certain very interesting observations Taking, for example, the lake lizard—*Necturus laterali* —which had been kept for thirty months without food and killing such animals eight hours after feeding them with material containing albuminate of iron, he found that on removing and hardening the intestine intact then cutting sections and treating them for iron, there actually within the lumen of the intestine, were numerous free leucocytes crowded with granules of iron pigment; others, free from iron, appeared to be passing ou between the epithelial cells, others filled with it, were i the same position, while still others were subepithelia In higher animals he found that after giving iron, th tips of the villi between the epithelial cells showed th same iron-containing leucocytes and, further, they wer present in the venules of the villi; and very shortly afte feeding animals in this way, either with peptonate c albuminate of iron, many of the leucocytes in the capi laries of the liver and the spleen were found loaded wit it. There can be no doubt then, that under certai conditions leucocytes are constantly passing out on the free surface of the digestive tract and passing bac and such leucocytes, taking up various food stuffs, a able also to take up bacteria. The researches of Ruffe fully prove this. He took the small intestine of health rabbits immediately after death, hardened it in absolu alcohol and cutting sections stained them for bacteri He found leucocytes present on the free surface, othe between the epithelial cells of the mucosa, some of whic contained microbes, while, in Peyer's patches, the i terior of the individual lymph follicles contained enorr ous numbers of micro-organisms which, according him, are without exception in the interior of the lyr phoid cells of the tissue. In the rabbit's tonsil he foun an identical condition of affairs and, according to h studies, the polymorphonuclear leucocytes wandering to the surface and there taking up fatty and other par cles and occasionally bacteria, pass back again into t lymph glandular areas and are there taken up by certa larger cells—the macrophages of Metchnikoff—ce which, according to Mallory, are of endothelial origi Here, in these larger cells, they and the contained b teria undergo digestion. A similar state of things h been recently shown to occur in connection with t lungs, in the peribronchial glands.

Thus, then, under certain conditions bacteria pass in the lymphoid glandular tissue of the pharynx, as of t small intestine, and there tend to be destroyed, and the lymph glands of the subepithelial and submucous ar of the alimentary and respiratory system may be rega ed as a second line of defense of the organism agai bacterial invasion. But these facts show that at le one tissue is not normally sterile, it is, if you like so regard it, *potentially sterile; the tendency is for enteri* *bacteria to be rapidly destroyed.* But we can realize conditions under which such destruction is not complete—when, for example, the passage out and the migration and subsequent return of the leucocytes is excessive, or when again the cells of the body are weakened and can not with sufficient rapidity destroy the bacteria, or when again bacteria themselves, happening to be in the intestine, are of peculiar virulence.

We can, however, go beyond the submucous glands. My senior demonstrator, Dr. A. G. Nicholls, has recently made some very interesting observations, which can easily be repeated and confirmed. Killing healthy rabbits, he has immediately stretched the mesentery of the small intestine, rubbed this on either side with a sterile swab, so as to remove the covering endothelium and then stretching the mesentery over a glass slide, has hardened it in formalin and removed it without cutting the intestine, so as to prevent any bacteria contaminating the surface from the intestinal contents. After hardening in this way he has strained with carbol-thionin. A full account of these experiments will be published later; here I need only say that in rabbits which are apparently in perfect health, the mesentery so prepared shows relatively abundant bacteria in various stages of disintegration. Some are in the lymph channels, and it may be in the blood-vessels; others are apparently free in the lymph spaces and others again are in the immediate neighborhood of nuclei which would seem to be those of wandering cells. Nor, as Bizzozero[6] and Ribbert[7] have pointed out, are bacteria absent in the healthy mesenteric gland, and my own observations confirm these statements. Sections of healthy mesenteric glands of man show, in general, definite bacteria undergoing degeneration, and occasionally the number is remarkable. Neisser,[8] it is true, found the mesenteric glands of large animals sterile, but, as I shall have occasion later on to point out, his methods of obtaining cultures can not be considered free from objection; nor, indeed, does the fact that he was unable to gain cultures disprove or tell against the fact that sections of these mesenteric glands show the evident presence of bacteria. Here, as in the submucous glands, the tendency is for those bacteria to show marked signs of degeneration. The function of the gland tissue, in fact, is to destroy these bacteria, but that they are continually passing into the gland there can be no doubt.

My own experiments carry this subject one very considerable step further. It has been abundantly noted by a large number of observers—by Borel,[9] for example, in connection with the tubercle bacillus, and by Werigo[10] in connection with the anthrax bacillus—that within a very few minutes after intravenous inoculation of the bacteria, these are to be found already within the endothelial cells of various organs of the body. Werigo has clearly shown, and Lemaire[11] has confirmed, that the hepatic endothelium is especially active in this matter and that the endothelial cells can be seen to give out fine prolongations to which the bacilli become adherent, and later as the processes contract they become actually intracellular.

In my own studies on the colon bacillus, or more correctly on certain members of the group of colon bacilli, I have been able to carry these observations beyond this point. Under certain conditions of modified growth these colon bacilli present themselves as bipolar organisms. In the stumpy bacterial forms the coloring matter appears to collect itself or to contract into two rounded masses, and in this condition the bacillus looks curiously like a diplococcus with a clear space around it resembling a capsule, which is, however, the colorless body substance of the organism. In the longer forms there may be three or four or more of these little masses, while, occasionally, instead of the two polar bodies, there is only a single rather ovoid mass.

In our studies[12] on intravenous inoculation of definitely long bacillary forms of the colon bacillus, it was interesting to observe that even in a quarter of an hour, many of these had been taken up by the endothelial cells of the liver, and now the longer rods evidently tended to break up into short pieces, and in several cases all that could be seen of them were these small diplococci still staining strongly, but absolutely unlike the original bacillary form which had been inoculated. At a still later period—in from two to four hours—we observed that in the liver cells there appeared an increased number of minute slightly brownish diplococcoid forms, and these increased in numbers so that in rabbits killed twenty-four hours after inoculation, they might be present in very great quantities while at this period not a single bacillus or diplococcoid form was recognizable in the endothelium. Dr. A. G. Nicholls and I were able similarly to recognize an almost identical process occurring in the cells of the tubules of the kidney, more especially in the convoluted ones, though here the brown staining of the coccoid forms was not so marked.

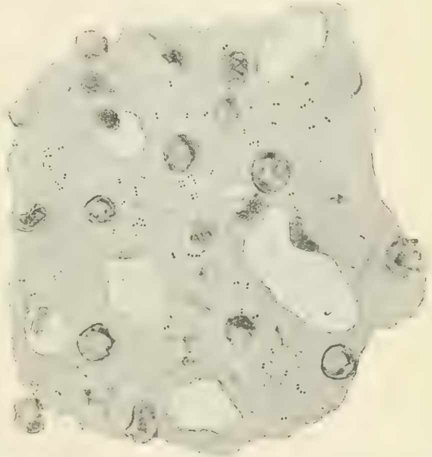

Fig. 1.—From section of liver, stained by carbol thionin, of rabbit dying 16 hours after intravenous inoculation of 0.5 c.cm. of a 48 hour broth culture of a bacillus (B. coli) gained from spleen of case of progressive portal cirrhosis. Drawing made by Zeiss camera lucida, 1/12 in. immersion lens (Winkel). Oc. 4. Sections from liver of rabbit inoculated intravenously with like dose of B. coli from ordinary feces showed identical appearance.

The difficulty in following and recognizing these little bodies is very great; they very soon lose their staining power, but in the liver cell they assume a brownish tinge and thus, if thin sections be taken and treated with weak acetic acid so as to dissolve away much of the protoplasm of the cells and to clear these, the little bodies can be seen without any special staining. They vary considerably in their size, and it would seem that they are in various stages of destruction and dissolution, so that they are apt not to stand out clearly, and unless one studies them carefully and focuses with extreme precision, they appear to be merely small and irregular masses of pigment. But if studied with more care we can recognize a series of forms from those more especially at the outer edge of the cell, which may still take on a faint stain with carbolthionin and which are of the same size as those observed in the endothelial cells, through still smaller ones only possessing a brown color, until the smallest are only just visible as two minute dots lying in a clear space and recognizable only with the 1/18 inch immersion-lens. Nay more, we at times come across little, clear, vacuolar spaces of an oval shape, with no solid contents, but in size and shape resembling the clear spaces around the minute dots. Even now, although I have been looking at these for many months, it often takes me some minutes before I can resolve the bodies, these pigment granules, into their component parts, for I may add that where they are crowded together and where the section is at all thick, it is practically impossible to recognize their nature. Places have to be selected out where they are more scattered, and then their remarkable double nature and the surrounding fine halo are recognizable. These little bodies vary in size, it is true, but were they indiscriminate pigment granules or particles we would not find as we do that in the pairs the two members should be so remarkably equal; were we dealing with agglomerated independent granules of varying size, it is a mathematical certainty that the particles would not group themselves together in pairs formed of equal parts. This in itself, I can not but take it, is an added proof that we must be dealing with the remains of micro-organisms.

Cohnheim[13] long ago suggested that in the event of bacterial invasion the body protects itself by excreting the living germs through the kidneys and through the liver. But numerous observations, among which must be especially mentioned those of Wyssokowitsch, have thrown very considerable doubt on this theory. Wyssokowitsch,[14] in the course of a very long series of observations carried on with twelve species of bacteria chosen as not causing local lesions in the kidney, was unable in a single instance to gain cultures of the bacteria from the urine, whereas in thirteen out of seventeen experiments, employing species known to be liable to cause local lesions in the kidneys, bacteria passed in smaller or greater numbers into the urine. Sherrington,[15] who gives a very full study of this subject of the escape of bacteria with the secretions, finds that even when every drop of the circulating blood is teeming with organisms there may not be the slightest transit of them into the urine or the bile; nevertheless, when certain pathogenetic species are employed, a considerable number, often very considerable, of the injected bacteria, tend after a time to appear in the secretions of the kidney and the liver, and the escape in the excreta is sometimes accompanied by escape of actual blood. He points out, on the other hand, that sometimes the bacteria are present in the excreta without any detectable presence of blood in the same. He, however, with Wyssokowitsch, concludes that, when this transit occurs, the evidence is against believing that the parts are still normal, although rupture may not have occurred.

It is, however, but right to point out that both older and more recent observers have arrived at different conclusions. Among these may be mentioned: Trambusti and Maffucci,[16] who, in guinea-pigs and rabbits, after injecting the anthrax bacillus, found it both in the bile and urine; Cotton,[17] who found the pyococcus aureus as also the bacillus prodigiosus in the bile thirty minutes after inoculation, and the bacillus pneumoniæ after 4¼ hours; Pernice and Scagliosi,[18] who, after inoculating anthrax into guinea-pigs hypodermically, found the bacilli in the bile in four hours, the bacillus pyocyaneus and the bacillus subtilis in six hours, while in connection with the kidney Posner and Lewin,[19] after injecting the bacillus prodigiosus into the intestines, obtained it both from the kidney substance and from the urine. Biedel and Kraus,[20] after injecting animals with pyococcus aureus, the bacillus coli and the anthrax bacillus, found these in the urine, which was free from albumin and blood, a few minutes after injection. These last observers also made a series of examinations on the secretion through the liver, and introduced a method of placing a canula into the common duct before inoculating the animal, so as to gain the bile which is in the process of being discharged, from the canula, instead of making cultures from the gall-bladder. By this method they gained from the bile the pyococcus aureus which had been inoculated intravenously, in one experiment in thirteen minutes, in another in twenty, and in another in thirty-five.

But some of the most valuable observations on this subject have been made a Chicago worker, Dr. Fütterer.[21] He was able to gain the bacillus prodigiosus from the pelvis of the kidney two minutes after injection into the jugular vein of the dog, while, inoculating animals with the pyococcus aureus and the bacillus prodigiosus and following Biedel and Kraus, he obtained bile from a canula inserted into the common duct and gained abundant cultures of these micro-organisms within two or three minutes after inoculation into the left side of the heart.

Clearly, from the above observations certain bacteria, at least, are actively excreted, as Cohnheim suggested, through the liver and through the bile. In my own experiments after inoculating the bacillus coli, I have at times found only the minute and apparently dead diplococcoid forms in the bile, and the very appearance of these indicates that they have been acted on during their transit through the liver. That appearance is, I take it, an indication of definite secretory activity on the part of the hepatic endothelium and the hepatic parenchyma. But in addition I have found in other cases attenuated, as again well-developed and thoroughly vigorous, colon bacilli in the bile within a few hours after inoculation of a large quantity of these micro-organisms into the peritoneal cavity or into the blood. Sections of the livers of such animals show the changes in the endothelium, as also in the liver cells, already described. Thus I am led to conclude that where the number is not too great, the liver tissue is capable of wholly destroying and digesting the bacteria. Where, however, this function of the liver cells becomes exhausted by the taking up of excessive numbers of the bacteria, then it is possible for the bacteria to be discharged or secreted into the bile in a still living state.

These observations appear to me to clearly demonstrate that while *one of the functions of the lymphatic glands is to take up and destroy bacteria circulating in the lymph, a function of the liver, both as regards its endothelium and its cells, is to take up and destroy such bacteria as are introduced by leucocytes into the venules of the portal system and gain entrance into the portal blood, while similarly a function of the kidney parenchyma, more especially of the convoluted tubules, is to remove bacteria circulating in the systemic circulation.* I have not as yet been able, for lack of time, to fully study the other glandular and excretory organs of the body. I have, however, made individual observations tending to prove to me that other glands possessing excretory ducts, the pancreas and the mammary glands for example, have identical functions. However, I would as yet make no absolute statement concerning these organs.

But if, experimentally, we can thus demonstrate this remarkable power possessed by the liver and kidney cells, is it likely that these properties are normally in a state of rest and that it is the exception, not the rule, for bacteria to be taken up and destroyed by these cells? As a matter of fact, I have accumulated abundant evidence that this is not the case. In the liver cells of normal animals, of man and the rabbit for instance, these little brownish diplococcoid bodies are normally present. *They form, indeed, the finely granular pigmented material so frequently met with,* and the reason why this has not been recognized earlier is that the pigment has not been examined with sufficient care and with sufficiently high power. I was much interested, for example, to observe in one or two of Dr. Fütterer's photographs,[22] the appearance of these minute diplococcoid bodies, an appearance, I may add, wholly different from the coarser clumps of inspissated bile lying in the first intra and extracellular bile capillaries of the organ. Upon examining a series of sections of forty livers taken in order from as many different autopsies at the Royal Victoria Hospital, I found bodies present in all but three. Out of these forty sections, which were simply labeled with the number of the autopsy, I selected five in which, without there being any sign of cirrhosis or severe disturbance of the organ, these little brown diplococcoids were present in relatively enormous numbers. On studying the autopsy book to see from what cases these came I was greatly impressed by the fact that in every one of these, without exception, there was a history of extensive abdominal inflammation. From such studies we are bound to conclude that normally a certain number of bacteria find their passage into the portal circulation, and, whether already destroyed by leucocytes or still living when taken up by the endothelial cells, they are arrested from entering the general circulation by this agency of the liver, and further, that inflammation of the intestines materially favors this passage.

But now, as against the conclusions above deduced, we have, I must freely confess, numerous careful studies by trustworthy observers, which would appear to establish a view diametrically opposed. Observer after observer has found the blood free from bacteria, even when there is acute infectious disease, nay more, even when, as in typhoid fever, there is an acute inflammation of the intestine. Observer after observer has found the normal tissues, liver, kidney, spleen, and so on, absolutely free from bacteria. Is the conclusion which I have reached founded throughout on erroneous observations; is it possible that the negative results of so many good workers are due to imperfect technic; or lastly, is there a *via media,* and can we discover facts which are capable of reconciling the two opposed series of observations?

ON THE PRESENCE OF BACTERIA IN THE BLOOD.

Let me first consider the case of the blood. Long years ago Lord Lister drew attention to the sterility of the blood, but it was he who, later, made, as I shall shortly point out, the first observations on the cause of this sterility. With that unfortunate aptitude which French and German observers have shown to neglect English and American work, the fact has in general been passed over that Lister made the first careful studies on the bactericidal function of the blood outside the body, and, though we owe the first full studies on the subject to an American, Dr. Nuttall, he, working in a German laboratory, did not there have his attention called to Lister's earlier paper on the subject. From Lister onward it has been the custom to regard normal blood as of necessity absolutely sterile. In 1895, however, Nocard[23] called attention to certain facts showing that this view was not wholly correct. For years Nocard had collected his blood serum aseptically without the employment of heat; in some cases he found that the serum so collected did not "keep" and, looking over these cases, he found that these sera had invariably been collected in the afternoon, after a meal; and so he made a series of observations in which he determined that the serum of fasting animals is nearly always sterile as again, to a less extent, is their chyle; after feeding he discovered that microbes were present in the chyle in considerable numbers, being less where lean food had been taken, while after a meal of fatty foods they formed innumerable colonies. The assumption here is that where fat is taken up into the system from the intestines, along with it, by the same route, bacteria gain an entrance. These observations of Nocard were shortly after confirmed by Porchard and Desoubry[24], who also found that during digestion the chyle of dogs is very rich in microbes, and that these are already less numerous in the heart blood, particularly in that of the left side, as that in the jugular vein they are less numerous than in the carotid artery—an indication that along the course of the circulation the microbes are arrested.

Allied to these results may be mentioned those of Posner and Lewin,[25] who, having tied the rectum in the rabbit, without, however, causing any gross lesion of the mucous membrane, found that within eighteen to twenty-four hours the whole organism, including the heart blood, became infected with intestinal bacteria, and who, in a like manner, conclude that bacteria are capable of invading the whole organism through the intestinal walls, even when there is not the slightest perforation of the intestine.

The above observations of Nocard, it is needless to say, caused considerable interest, though they were received with grave doubt. In Germany, more especially, Max Neisser[26] took up the study. He obtained the mesenteric glands from young cattle and sheep. Taking all precautions against contamination, he made cultures from these and, without exception, save in his earlier observations, in which he alleges poor technic, the glands were found sterile. So also he found that the mesentery with its lymph vessels, from rabbits and guinea-pigs, when placed directly into culture-media, remained absolutely sterile, and from these observations he arrived at the conclusion *that normally by means of the lymph channels, not a single bacterium passes into the circulation either by resorption or by growth.* Further, the same observer, taking a series of fasting and well-fed dogs, to some of which he had given abundant quantities of various pathogenetic and non-pathogenetic bacteria by the mouth, removed the chyle and attempted to gain cultures in gelatin, agar and broth. He found that under all conditions the chyle gave no cultures, or, as he states it, was *absolutely free from germs,* while he concluded from some further observations that normally the chyle is free from any bactericidal powers. Kühnau[27] obtained similar results.

In America, quite recently this subject has been taken up in a long and most thorough investigation by Franklin Warren White of Boston.[28] He attempted to gain cultures in septicemia and other diseases, and, in order to guard against possible contamination, took the blood direct from the veins by means of a sterile syringe under all aseptic precautions. 0.5 c.c. of this blood was forced in each case into eight tubes of agar kept fluid at the bed side at a temperature of 42° C.; then the blood was thoroughly mixed with the agar.. Two broth tubes were each inoculated with 0.5 c.c. of the blood and those various bloods and tubes so prepared were kept at the body temperature and examined at intervals for several days. The results obtained are rather remarkable: out of 18 cases of septicemia, in 4 only did he gain positive results, specific bacteria being found in the blood during life. Out of 19 of pneumonia, in only 3 were there positive results; in 8 of cerebrospinal meningitis, not a single positive result was obtained, whereas out of 37 of chronic disease (nephritis, tuberculosis, gastric ulcer, myocarditis and pericarditis, etc.), only 5 positive results were obtained. Thus, out of 92 cases altogether, only 12 gave cultures and these in cases of active disease. A remarkable point with regard to these observations of Warren White is that he, like many previous observers, Petruschky, Sittmann, Hewelke, Michaelis, Meyer, Verdelli and yet others, obtained almost entirely, if not entirely, staphylococci, streptococci and pneumococci. The remarkable fact is that whereas bacillary forms are so commonly associated with infection, all these observers with singularly rare exceptions failed to gain bacilli from the blood. This in itself is very suspicious. Warren White did not get the colon bacillus in a single culture, although the colon bacillus was not infrequently found in one or more organs at the autopsy, and, like the other observers, whom he quotes, he can not accept the theory that the normal or nearly normal bowel is easily and frequently penetrated by bacteria.

It is very remarkable that Warren White himself[29] has pointed out that the blood serum even in healthy individuals is not appreciably germicidal for pus organisms* whereas it is markedly germicidal toward the colon bacillus, and he found further that the serum retained this property even in cases of severe chronic disease up to the end of life, and it may be for several hours after death.

Herein lies, it seems to me, the explanation of the whole matter: Those observers who have most frequently gained positive results are just those who have employed broth cultures and have diluted the blood considerably. Nocard and French observers, as I know from personal experience, still favor the method introduced by Pasteur, of using relatively large quantities of broth for making first cultures, in preference to solid media; whereas German observers, as in private duty bound, follow the methods introduced by Koch and work especially by means of streak and plate cultures of solid media.

Because certain observers have failed to discover bacteria in the blood from cases of infectious disease, it by no means follows that the blood when shed has been free from bacteria. One and all of these observers who have gained so large a proportion of negative results have failed to take into account, or to take any measures to diminish the bactericidal action of the shed blood, and our German colleagues, those who have been foremost in dwelling on this bactericidal action and employing it to explain immunity and arrest of disease, have been the greatest sinners in this respect. I need but refer here to the fact long ago clearly demonstrated by Lubarsch, that whereas 1 c.c. of shed blood will kill thousands of anthrax bacilli, a much smaller number of the bacilli introduced into the circulating blood will surely cause the death of a rabbit, i. e., will not be killed in the circulating blood but will proliferate abundantly; or to the abundant further evidence that we possess, that the bactericidal powers of the circulating blood are relatively slight, whereas those of the shed blood are remarkably powerful. In the act of coagulation it is that the bactericidal substances are in the main liberated. If but a few bacteria be in the blood removed from a vessel, and a drop of that be smeared over the surface of agar or blood serum, no wonder that the results are negative. That drop of blood alone is capable after coagulation of destroying hundreds, not to say thousands, of such bacteria as the colon bacillus. Even if, as Warren White proceeded to do, 0.5 c.c. of blood be mixed with 5 to 10 c.c. of agar or other medium, the dilution is too slight to greatly inhibit this bactericidal action. No wonder then that in his series of observations, only those forms, and just those, relatively resistant to the bactericidal action of the blood serum, managed to proliferate and to form colonies.

Thus it happens that those who have employed solid media have had a succession of negative results; those who have freely diluted the blood and the chyle have more often gained positive results. It is not that the bacteria have been of necessity absent from the blood, it is that the proper means were not taken to favor their growth.

What is true of the blood is true also of the bile. Compared with the blood the bile has such slight bactericidal effects that most observers have denied that it has any at all. My own observations show me that it has a slight bactericidal and inhibitory action on the growth of bacteria. Here, as with the chyle, if relatively large numbers of bacteria from a pure culture be added, they grow immediately and abundantly, but if the number be small, they tend to be destroyed. Dr. Maude Abbott, working in my laboratory at the Royal Victoria Hospital, has now repeatedly found that if inoculations of human bile be made simultaneously upon agar or blood serum and into broth, the former tubes may remain sterile, the latter show growth. It is only where relatively abundant bacteria are present that growth occurs on all media. In short, the proper method to test the blood for the existence in it of bacteria, is to take a relatively large quantity of that blood, say about 0.5 c.c.—because no one pretends that in the circulating blood any large number of bacteria is present, and if a small quantity be taken the germs are likely to be missed—and immediately drop that into a Pasteur flask containing 50 or 100 c.c. of broth, shake forthwith so as to distribute the blood through the broth or other fluid culture-media and thereby to dilute it thoroughly. Even with this dilution it is not certain that bacteria present in the blood will grow, but, certainly the growth is distinctly favored as compared with the more common method of the employment of solid media. I do not say that, employing this method, germs are constantly found in the blood; I do say that they tend to grow much more readily.

(To be continued.)

THANKSGIVING day the Boyce annex of the Atlantic City (N. J.) Hospital was dedicated and was formally opened for the receiving of patients. It is the gift of Mrs. Nourse of Absecon, and cost $10,000.

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* In this White is in harmony with Nuttall,[30] Stern,[31] and Prudden.[32] Flexner,[33] however, agrees with Rovighi[34] that, normally, human blood serum does possess distinct bactericidal properties for the pyococcus aureus, though this power is absent or diminished in some cases at least of advanced chronic disease. Of nine samples of blood taken from persons suffering from some form of chronic disease, in three only was no appreciable effect exerted on the pyococcus aureus. Flexner found that 1 c.c. of normal blood serum might in four hours kill some 29,000 pyococci, though usually the number destroyed was very much less.

Original Articles.

MENSURATION AND CAPACITY OF THE FEMALE BLADDER.

BSERVATIONS ON THE FEMALE BLADDER DILATED BY ATMOSPHERIC PRESSURE IN THE KNEE-BREAST POSTURE.

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The investigations here reported were undertaken by he writers on the suggestion and with the constant aid nd direction of Dr. Howard A. Kelly, of the Johns Hopins Hospital, to whom they take pleasure in acknowldging their indebtedness.

How little is really known about the bladder is found n a cursory reading of the surgical text-books, conaining their meager and contradictory statements. The measurements and capacity of the female bladder given n the text-books have been determined by post-mortem xamination, by urine—or other fluid—distension to iscomfort, and by other inexact methods that have given mperfect and often contradictory results.

The methods employed by the writers in their investiation differ from those heretofore employed in essential nd important respects. 1. All measurements have been made on living women with the bladder either perfectly ealthy—most cases—or so slightly disturbed from he normal as not to affect the accuracy of the esults. 2. All examinations were made with the omen in the knee-breast posture, with the rectum, agina, and bladder all—with a few exceptions oted in the accompanying table—dilated by atmosheric pressure, produced by simply opening these avities to the outside air by the insertion of a speculum, y the method so well known from the writings of Kelly.

With all cases thus placed under similar conditions f observation, the chief sources of avoidable error were emoved, and relative measurements could be made and ertain averages and standards found. It was, of course, mpracticable to estimate the variations of intra-abominal pressure in different cases or to fix upon a tandard of this force, but repeated examinations of the apacity of the bladder in the same case showed that this orce was nearly uniform. Although this force may e assumed to vary in different cases and thus to inuence the capacity of the bladder when it is opened to he entrance of the outside air, still we believe that this ariation is far less important than the variation of inividual tolerance or irritability to fluid distension, the method previously most generally employed in deermining the capacity of the bladder.

It was found also that by this method of dilatation o discomfort[1] was felt by the woman, and consequently o resistance, either voluntary or involuntary, was ofered by her, thus adding to the uniformity of the conitions of observation. On the contrary, it was found that distension by fluid to discomfort was subject to the peculiar and varying irritability or tolerance of the subject, and thus gave no uniform basis of comparison.

The work was undertaken primarily to afford to the gynecologist for his guidance some additional information on the size, shape, position, internal mensuration, and capacity of the bladder, and incidentally to furnish the anatomist with some of the same data.

Had the study been made primarily from the anatomic viewpoint, it might have been better to have made the observations on the bladder alone distended, without the distension also of the vagina and rectum. But we have found that while the distended vagina and rectum have a certain influence on the shape and position of the dilated bladder, they seem to influence only slightly its air capacity.[2]

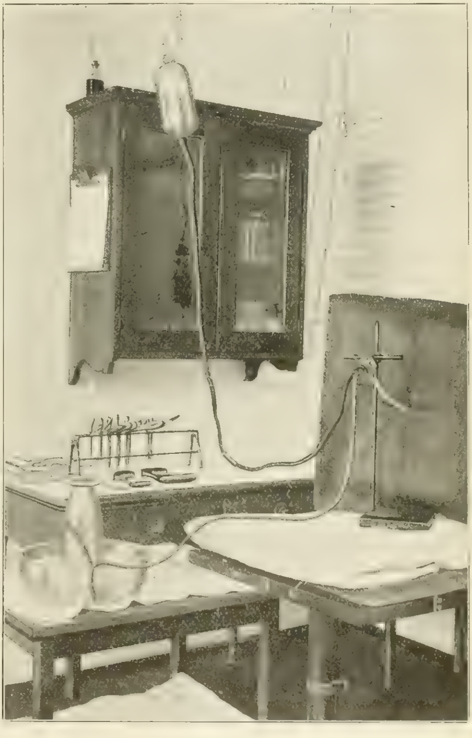

Fig. 1 represents the double-barreled catheter and attachment, and for determining the residual air in the bladder after bimanual expansion.

The chief points investigated were: 1, the average atmospheric distension capacity of the female bladder, 2, its actual internal measurements from the internal urethral orifice to certain chosen points on its walls.

For the purpose of the first study, the woman was put in the knee-breast posture and the three pelvic cavities were each allowed to dilate by natural atmospheric pressure. A closely fitting catheter was then introduced into the bladder, attached at its external end to a long soft rubber tube. The rubber tube was closed by clamp, and the woman was then rotated carefully by assistants from the knee-breast into the dorsal position. The rubber tube was then introduced into a deep vessel of water and from below upward into an inverted glass, graduated cylinder completely filled with water, and was held pointing upward in this position, by an assistant. The clamp on the tube was then released, and the entire air content of the bladder was expressed by the ordinary gynecologic bimanual method, with one hand exerting pressure on the bladder externally from the abdominal wall and the other pressing at the same time on the bladder from within the vagina or rectum.

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[1] The patients never complained of discomfort from the distended ladder while in the knee-breast posture. After rotation to the dorsal osition, however, they usually felt some slight discomfort, if they were ot under anesthesia. and were instructed, before being rotated, to efrain from any expulsive effort.

[2] This last statement needs confirmation, as our observations on this point were few.

The air thus expressed was gathered in the glass cylinder, displacing from above downward an equal amount of water, and the amount was read off on the graduated cylinder, thus determining the exact air capacity of the bladder.

To test whether all the air was thus removed from the bladder a special instrument was devised (Figs. 1 and 2), consisting of a metal catheter, divided by a horizontal septum through its entire length, each compartment of the catheter opening separately at the bladder end of the instrument, and also at the external, here being drawn out into separate round tubes for attachment to rubber tubes. The opening of the upper chamber at the bladder end of the instrument was guarded by a wire cage covering it, and thus protected against injury to the mucous membrane of the bladder by suction, at the same time preventing an entire closure of the exit by the collapsing mucous membrane.

Case.	Age.	Size.	Para.	Bladder.	Pelvic organs.	Anesthesia.	Time in position.	Air in		Urethra.			Mensuration of bladder. Int. orifice of urethra to				Bladder capacity.	
								Rectum.	Vagina.	Caliber. mm.	Length. cm.	Intern. orifice closes.	Vertex. cm.	Pos. wall. cm.	Left lat. wall. cm.	Right lat. wall. cm.	Air. c.c.	Fluid. c.c.
1	19	Large.	O	Normal.	Left cystic ovary.	O	15 m.	+	+	8	3.75	. . . . . .	7.00	5.75	7.00	6.00	350	440
2	27	Small.	O	Normal.	Small right ovarian cyst.	Ether.	30 m.	+	+	7	3.50	Hexagonal.	7.00	7.50	6.50	6.50	300	520
3	51	Large.	iii	Normal.	Normal.	Ether.	15 m.	?	?	8	3.30	Quadrangular.	5.00	7.00	5.20	4.80	225	380
4	20	Large.	O	Normal.	Small uterus.	Ether.	30 m.	+	+	8	3.00	. . . . . .	7.00	6.50	6.75	6.75	235	
5	53	Large.	ii	Trigonitis.	Normal.	Ether.	15 m.	?	?	7	3.50	Narrow slit.	7.30	5.80	6.00	5.30	380	400
6	36	Small.	iv	Normal.	Relaxed vag. outlet.	Ether.	15 m.	+	+	8	3.20	. . . . .	2.20	2.20	2.80	0.80	230	500
7	29	Large.	O	Normal.	Retroflexio ut. Left salpingitis.	Ether.	15 m.	+	+	. .	4.00	Pentangular.	4.80	1.80	3.80	2.80	160	210
8	18	Medium.	O	Normal.	Normal.	Ether.	15 m.	+	+	7	2.80	. . . . . .	10.30	7.80	8.80	6.30	400	400
9	19	Large.	ii	Normal.	Slight double salpingitis.	Ether.	?	?	?	6	3.50	Transversely ellipsoidal.	8.00	6.80	8.00	6.80	275	425
10	17	Large.	O	Normal.	Anteflexio uteri.	O	15 m.	+	+	7	3.00	Triangular.	7.50	6.00	6.80	5.50	220	460
11	48	Large.	Para.	Normal.	Normal.	Ether.	15 m.	?	?	. . .	3.00	Pentagonal.	8.30	6.80	7.30	6.00	210	440
12	35	Medium.	O	Normal.	Normal.	Ether.	15 m.	+	+	7	3.50	Circular.	6.80	5.30	6.80	4.80	275	360
13	39	Large.	O	Normal.	Left ovarian adhesion to broad ligament.	Ether.	15 m,	+	+	7	3.50	Pentagonal.	9.20	6.20	8.20	8.70	545	840
14	34	Medium.	Para.	Normal.	Normal.	Ether.	15 m.	+	+	. .	. . .	Quadrangular.	7.70	5.70	6.70	5.70	290	400
15	27	Very large.	O	Normal.	Normal.	Ether.	30 m.	+	+	. .	2.75	Triangular.	8.20	6.70	7.20	7.20	400	500
16	19	Small.	O	Normal.	Normal.	Ether.	30 m.	+	+	6.5	3.00	Pentagonal.	8.20	6.20	8.20	6.20	350	600
17	28	Small.	vi	Normal.	Prolapsus uteri.	O	15 m.	+	+	6	4.20	Hexagonal.	7.20	6.20	7.20	7.70	220	300
18	39	Medium.	Para.	Normal.	Suspensio uteri. Salpingitis, oöp.	O	15 m.	+	+	6	3.00	. . . .	6.20	6.20	6.70	6.20	300	220
19	24	Small.	O	Mild cystitis.	Normal.	O	15 m.	O	+	.	. . .	. . . .	5.70	5.20	5.90	5.20	240	
20	23	Large.	i	Normal.	Normal.	Ether.	15 m.	?	?	8	.	Pentagonal.	8.00	7.20	6.70	6.70	520	450
21	52	Large.	vi	Trigonitis.	Normal.	O	15 m.	+	+	. .	. .	Tranverse slit.	7.70	6.20	8.20	7.20	320	480
22	24	Small.	Para.	Normal.	Normal.	Ether.	30 m.	+	+	. .	. . .	. . . .	5.20	3.20	4.20	4.20	200	
23	19	Medium.	O	Mild cystitis.	Normal.	O	15 m.	+	+	.	. . .	. . . .	7.20	5.40	7.20	7.40	385	460
24	26	Small.	Para.	Acute cystitis.	Retropos. uteri.	O	30 m.	+	+	.	. . .	. . . .	9.20	6.20	7.20	7.20	325	350
25	52	Large.	O	Mild cystitis.	Normal.	Ether.	30 m.	+	+	.	. . .	Circular.	7.70	4.40	8.20	6.20	220	320

After the patient has been rotated from the knee-breast into the dorsal position, this double catheter, its lower chamber having been previously shut off by clamp, is inserted and through its upper chamber the air content of the bladder is collected in the way already described, by bimanual pressure on the bladder.

The rubber tube connecting with the upper chamber is then shut off by clamp, and a sterile boric solution, colored slightly with methylene blue, is passed into the bladder through the lower chamber of the catheter by hydrostatic pressure from outside, the tube connecting with a glass vessel filled with the fluid and raised above the level of the bladder to produce the required hydrostatic pressure to fill it. The catheter, which is curved, is depressed externally so that its end within the bladder is raised to the anterior—upper—wall of the bladder and is felt against the abdominal wall by the hand placed against it externally.

When the bladder is filled to moderate distension by fluid, and air remaining in it would naturally rise to the highest level and thus find its way out through the upper passage of the catheter, then the clamp on the rubber tube connected with it externally is released. This air is forced out by the pressure of the fluid within the bladder seeking to escape, and is collected and measured.

The amount of air thus obtained ranged from 5 to 30 c.c., averaging about 15 c.c., which was found by measurement to correspond to the air content of the catheter and attached tube. It was thus shown that the total air content of the bladder had in general been completely removed by the previous bimanual expression.

In the twenty-five women examined, the average bladder capacity by atmospheric distension was found to be 303 c.c., individual cases ranging from a minimum of 160 to a maximum of 545 c.c. By reference to the accompanying table it will be seen that the capacity in general follows the general size of the bladder by internal mensuration, and also in a general way the size of the woman. Measurement was also made, in 22 cases, of the fluid content of the bladder, boric solution being used for this purpose. On anesthetized patients the solution was introduced through the double-barreled catheter until overflow through the upper barrel; on those without anesthesia, until discomfort was caused to the woman. The average fluid capacity was thus found to be 429.7 c.c., varying in individual cases from a minimum of 210 to a maximum of 840 c.c. The fluid capacity of the bladder was thus found to be more than one-third greater than the air capacity, a difference that would be expected because of the elasticity of the bladder walls under increased pressure.

With reference to the influence of anesthesia on the capacity, the following table has been arranged:

	Atmospheric capacity.	Fluid capacity.
With anesthesia	306.7 c.c. (av. 17 cases)	449.6 c.c. (av. 15 cases)
Without anesthesia	295.0 c.c. (av. 8 cases)	387.1 c.c. (av. 7 cases)
	303.0 c.c. (av. 25 cases)	429.7 c.c. (av. 22 cases)

From these figures it is seen that the average capacity of the bladder for both air and fluid is somewhat greater with than without anesthesia, explained, doubtless, by the relaxation of the bladder walls during anesthesia. The above figures tend also to show that this difference is greater with fluid than with atmospheric distension, due to the greater irritability of the bladder, without anesthesia, to fluid distension.

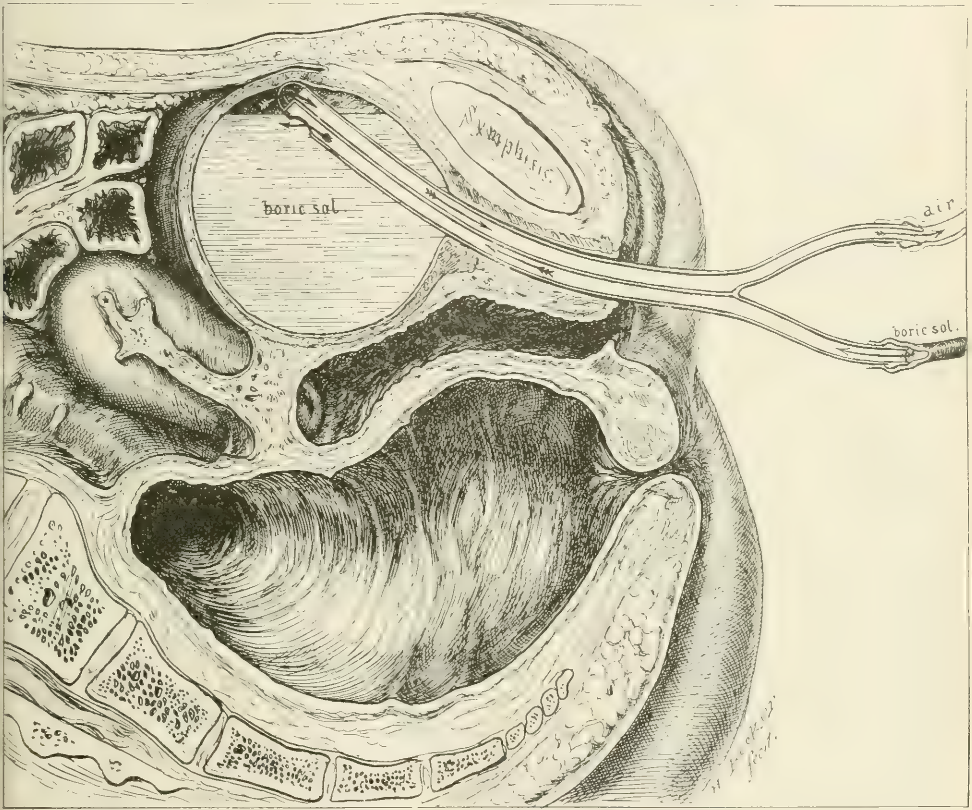

Fig. 2.—Median section, dorsal position, showing the double-barreled catheter in position in the bladder, boric solution entering through the lower chamber and forcing the air out through the upper chamber.

The influence of child-bearing on the capacity of the bladder is shown in the following table:

	Atmospheric capacity.	Fluid capacity.
Nulliparous.	313.8 c.c. (av. 13 cases)	464.5 c.c. (av. 11 cases)
Parous	291.2 c.c. (av. 12 cases)	395.0 c.c. (av. 11 cases)
	303.0 c.c. (av. 25 cases)	429.7 c.c. (av. 22 cases)

The explanation of these figures, showing the greater capacity of the bladder of nulliparæ, is doubtful, and it may be that it is purely accidental, due to the limited number of cases observed. We would suggest, however, that it may be due to the greater elasticity of the bladder of the nullipara, influenced both by her younger average age, and by the fact that her bladder and the surrounding tissues have not suffered injury and undergone sclerotic changes as the result of the pressure of the gravid uterus. The influence of age is shown in the fact that the average age of the women who had borne children was 36, and of the nulliparous women only 26 years.

The second chief object of this study was to gather some statistics on the internal mensuration of the bladder under atmospheric dilatation in the knee-breast posture. The importance of such measurements to the gynecologist is apparent, but they have never before been accurately ascertained.

The distance of certain points from the internal urethral orifice was measured. The points chosen were: 1. The *vertex,* or summit, the most prominent and distant point in the concavity of the upward and anterior bulging of the ventral wall, usually placed well above the reflexion of the peritoneum and the departure of the urachus. 2. The most prominent and distant point in the upward and dorsal bulging of the *posterior wall.* This point is found a few centimeters above the peritoneal reflexion, and is usually opposite the end of the cystoscope when it is held in the axis of the patient's body. Quite frequently, however, the cystoscope must be directed more posteriorly to bring this point into view. 3. The point of greatest outward bulging in the *left lateral wall.* 4. The point of greatest outward bulging in the *right lateral wall.* These four points are not scientifically fixed points, but in actual work are found to be sufficiently clearly indicated for practical purposes of identification and description (Fig. 3).

The average measurements obtained for these four points were: to summit, 7.14 cm.; to posterior wall, 5.77 cm.; to left lateral wall, 6.70 cm.; to right lateral wall, 5.92 cm. The individual measurements will be found in the accompanying table.

Taking the measurements separately for nulliparous and for parous women, the averages are found to be:

	Summit.	Posterior wall.	Left lateral wall.	Right lateral wall.
Nulliparous (av. 13 cases)..	7.43 cm.	5.75 cm.	7.03 cm.	6.12 cm.
Parous (av. 12 cases) . .	6 83 cm.	5 79 cm.	6 35 cm.	5.72 cm.

The greater average internal dimensions of the bladder of nulliparæ, here shown, correspond to the greater capacity for air and fluid, as already pointed out, and may be explained in the same way.

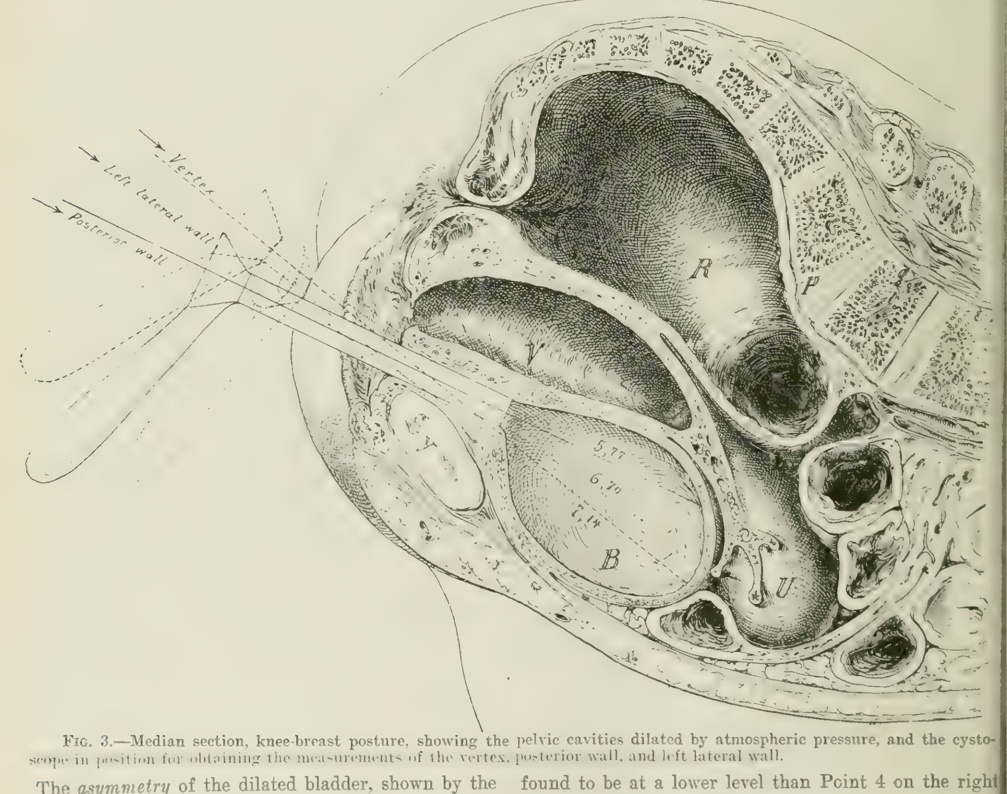

Fig. 3.—Median section, knee-breast posture, showing the pelvic cavities dilated by atmospheric pressure, and the cystoscope in position for obtaining the measurements of the vertex, posterior wall, and left lateral wall.

The *asymmetry* of the dilated bladder, shown by the unequal lateral measurements, is of interest. In sixteen cases the left lateral measurement is greater than the right; the reverse is true in six, and in three the left and right internal lateral measurements are equal. The occasional asymmetric position of the bladder has been noticed by anatomists, but never before has this asymmetry been recorded in so large a proportion of cases. This tendency for the bladder to be placed more to the left than to the right, at least when the patient is in the knee breast posture with the three pelvic cavities dilated with air, may be explained by the fact that the rectum in women is found much more commonly on the right than on the left within the pelvis, and thus the distended rectum tends to displace the bladder toward the left. Our observations on the position of the rectum in women are directly opposed to the usual statements of the text-books of anatomy and surgery. Mr. Max Brödel,[3] artist to the gynecologic department of the Johns Hopkins Hospital, whose observations on the anatomy of the organs of the pelvic cavity have been exact and extensive, informs us that his own experience confirms our observations on this point.

Another factor producing some slight asymmetry of the dilated bladder is the fact that the uterus[4] is usually placed somewhat to the left of the median line and encroaches on the left upper posterior quadrant of the bladder, as is well shown in Fig. 4. The influence of this factor is to lower the point of greatest outward bulging of the left lateral wall, Point 3, so that it is found to be at a lower level than Point 4 on the right lateral wall.

It was found that the same patient examined repeatedly by the same method gave, as a rule, nearly uniform measurements, the variations being slight.

All cases were free from any constricting clothing at the time of the examination, and the rectum was emptied by cathartic or enema before the examination.

With the patient in the knee-breast posture, and the rectum, vagina, and bladder all dilated by atmospheric pressure, it was found that the true pelvis was always completely occupied by these three organs, and that the bladder and the uterus tended to rise upward and forward. In multiparæ the uterus was found to be displaced so far upward and forward that its fundus could be felt within a few centimeters of the umbilicus, Fig. 4.

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[3] To Messrs. Brödel and Becker of the Johns Hopkins Hospital, we wish to express our indebtedness for the beautiful drawings from which Figs. 2, 3 and 4 have been made.

[4] This observation is also opposed to the statements of some textbooks of anatomy, and is confirmed by Mr. Brödel.

The ballooning of the rectum and vagina before the bladder was allowed to fill with air was found to be of great importance to the ease of the examination of the ureteral orifices, in the fact that the dilated rectum and vagina press from behind upon the base of the bladder, thus bringing the trigonum and ureteral orifices forward and into easy view of the speculum. Neglect of this point and failure to first allow the rectum and vagina to dilate is accountable in large measure for the difficulty found by so many gynecologists in catheterizing the ureters.

The ureteral orifices were seen on, or were indicated by, a slight elevation of the mucous membrane, the "mons uretetris" of Kelly, but in some cases in young nulliparous women, the ureteral opening was indicated by a small round black point. Such a black point was never observed in older women who had borne children.

The bladder, as a whole, when dilated with air and observed during operation within the pelvic cavity—from abdominal section—was found to be ellipsoidal in form, flattened somewhat in its anteroposterior diameter

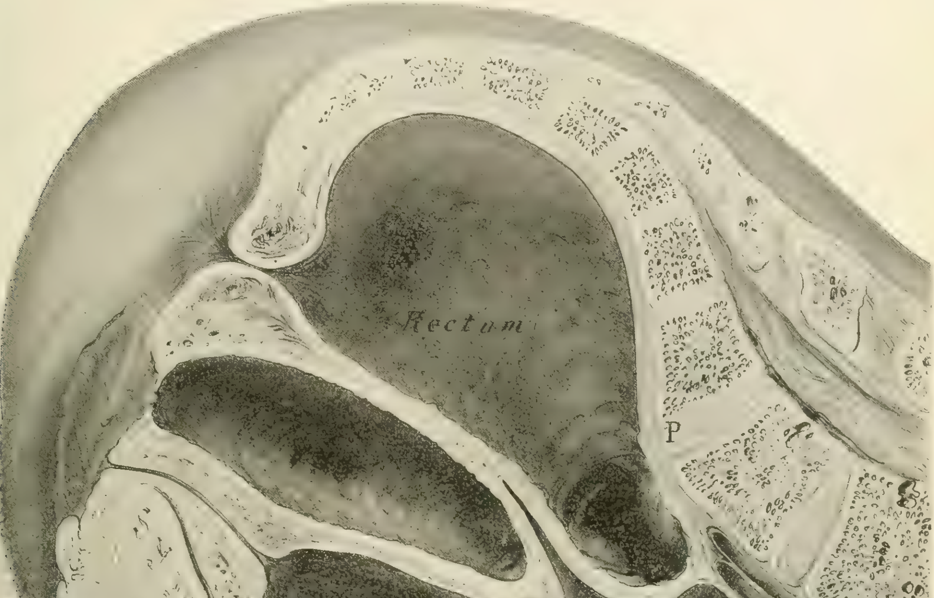

Fig. 4.—Median section, knee-breast posture, showing the anatomical relations of the pelvic organs when the rectum, vagina, and bladder are dilated by atmospheric pressure.

and increased transversely. The transverse diameter was always the greatest measurement. Mathematical calculation of the cubic content of an ellipsoidal viscus of dimensions of the bladder corresponded closely with the actual air capacity obtained by expression.

The average length of the urethra in seventeen cases was 3.3 cm., the shortest urethra measuring 2.7 and the longest 4.2 cm.

It is hoped by the writers that the measurements and observations here recorded, though limited to so small a number as twenty-five cases, may prove of interest and service, especially to the gynecologist, by affording a certain amount of carefully ascertained facts about the relative measurements and topography of the female bladder under air dilatation in the knee-breast posture.

DIPHTHERIA.*

BY EDWIN KLEBS. M.D.

CHICAGO.

I desire to express my appreciation of the honor conferred on me by your chairman, our highly esteemed Chicago hygienist, in inviting me to deliver before this Section an address on diphtheria. The occurrence of a prolonged illness of a member of my family, which terminated fatally, compels me to limit myself to a few outlines of personal observation, as a contribution to the discussion on the disease, the germ of which I have had the fortune to detect.

While acknowledging the success of serotherapy of diphtheria, the doubts expressed by Kassowitz and others only show that we must not neglect to exert all our intellectual powers and to improve our scientific methods with a view of achieving better results. We have still to progress in the development and execution of our prophylactic measures, particularly as regards the destruction of germs in the soil, air and food.

The first object of our attention will naturally be the diseased individual and his surroundings and members of the household, who, while apparently healthy, are really contaminated by germs, for the hair, nose, clothing, the surface of the body and even animals can serve as carriers of infection.

As far as human hair as a means of carrying germs is concerned, I made some interesting observations in Zurich during one epidemic outbreak of diphtheria in 1884.

In a school in that city, in which girls and boys sat in one classroom, separated by an aisle, principally the girls were attacked. The sex could not be regarded as a cause, but the long hair they were wearing. At my request the teachers made careful observations for statistic purposes and we found that children sitting behind others, in whose families diphtheria had broken out, became infected. The same was observed on boys who, because of lack of space, were seated among the girls. The children can infect each other while at play. In the same manner animals can become carriers of infection.

The second object demanding our attention is the patients' surroundings, particularly the garbage boxes and the dust of the street. During the epidemics at Zurich, in 1884 and 1885, open garbage boxes proved the means of spreading infection. I also had occasion to observe that adults who inhaled the dust of such open wagons whirled up by the wind, took sick within twenty-four hours. It is interesting to note, however, that the wind does not carry the infectious material to great distances, but only to limited portions of the town, creating circumscribed areas, as it were. It is plain that the garbage ought not to be dumped near the city, which simply means removing the danger to another spot, but should be burned. Milk alone has not received any attention as a means of carrying diphtheria bacilli; water has been proven to be harmless in that respect. I would recommend that only such garbage boxes should be used as are fitted with good covers, and that the garbage be burned within the contaminated districts. The streets should be subject to thorough cleaning in such districts, using an appropriate disinfectant, as crude carbolic acid for sprinkling purposes. The dust should be collected and burned. We have nothing to fear from contamination of sewers.

TREATMENT.

Isolation should be carried out as much as possible. Every member of the family, or house, should be subject to prophylactic treatment. For the latter purpose I recommend chinosol and antinosin. Those already afflicted should receive antitoxin injection as early as possible. The danger of serum injections seems to be confined to the deleterious action of foreign serum, known as the globulicide qualities of such serum of not human derivation. These globulicide substances can be destroyed by subjection of the serum to a temperature of 60° C., which does not destroy the antitoxic quality, as is shown by Spronck in Utrecht. Further, I would suggest that the needle should only be pushed into the tissue, to make sure that no blood-vessel had been touched. Escape of blood warns us that such is the case and a new insertion must be made and the syringe attached. Only a small quantity of the serum should be injected at first, and the heart watched for a few minutes, when more can be injected. It is an error to recklessly inject 5 c.c. at once, fatal results having come to my knowledge not only in children but also in adults. Soft parts, remote from the heart, such as the hip or loins are the best places for injections. The serum should always contain a small quantity of antiseptics—kresol 0.2 per cent. or thymol in crystals.

Of greatest importance for a successful treatment is a correct clinical diagnosis. Even when membranes are not present, or are invisible because situated in the posterior parts of the nares, or when they are not characteristic enough, resembling follicular tonsillitis, true diphtheria may exist. In most cases the appearance and spreading of membraneous exudation is certainly sufficient for a diagnosis, when associated with general symptoms. In other cases microscopic and bacteriologic examinations afford certain means for a correct diagnosis.

The portion for microscopic and bacteriologic examination should be taken from the edges of the membranes, and from the adjoining, seemingly healthy, portions of the mucous membrane, with a sterilized cotton ball. In the center of membranes it very frequently happens that no bacilli can be found, these having been thrown off. Cultures should be made nowhere except in properly equipped laboratories. For cultures, I may add, dog serum seems to be much preferable to the Loeffler serum, as was shown by Dr. Robert F. Zeit, in my laboratory. For staining microscopic preparations the method gives such characteristic features that we know them as yet only from the tubercle bacillus. The methods of Ernst, and later of Neisser, are by no means so sure and simple. Zeit used a strong staining of the dried cover-glass preparation in methylene-blue concentrated solution in 5 per cent. borax, and decolorizes with 1 per cent. Bismarck-brown for three minutes. All true diphtheria bacilli then show the chromatic bodies very darkly stained, whereas the other substance of the bacilli is stained yellow. No other bacillus gives this reaction, which in many cases assures the diagnosis by microscopic examination alone. This method will help the practitioner to make the diagnosis for himself.

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*Presented in a Symposium on Diphtheria, before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The treatment proper can be divided into general and local.

General Treatment.—Serum injections should be made in every case in which a diagnosis of diphtheria can be made even with probability, but should not be registered as diphtheria until the diagnosis is made sure by microscopic or bacteriologic examinations. To enable the proper execution of the latter it is very desirable that properly-equipped stations in charge of specially trained physicians or pharmacists be established by the state, subject to supervision and registration by a central board of health.

Other general, not specific, treatment should be instituted, if a given case suggests such a necessity. Mostly to be recommended are mild hydropathic measures, as practiced in other fever cases. As in other infectious diseases of a highly toxic character, the formation of polynuclear leucocytes in the bone marrow is impeded. Repeated blood examinations with dried and stained preparations should be made, as these will give better indications for treatment than the fever alone. As cold water applications promote peripheral circulation they afford the best means of promoting leucocytosis. Possibly also pilocarpin injections are indicated for that purpose.

Local Treatment.—This has been very much neglected since the introduction of serotherapy. In the use of local antiseptics such chemicals as are apt to endanger the life and action of tissue-cells are to be absolutely avoided. Mild, not irritating, antiseptics, such as chinosol—1 to 1000—or antinosin in 2 per cent. solution, applied to the entire surface of the tonsils, palatum molle, pharynx, etc., with cotton balls, have given good results. The nasal passages should be washed with these same solutions by means of a suitable syringe. Such local applications have healed many cases of true diphtheria in which toxic symptoms were absent. The local use of the antidiphtherin, a ten times *in-vacuo* concentrated filtrate of diphtheria cultures, recommended and proved by me as highly efficient against the local affection and the fever, should not be neglected. This substance could easily be prepared in every laboratory for antitoxic serum. Its manufacture is not prohibited by patents.

INFLUENCE OF ANTITOXIN STATISTICS.*

BY EDWIN ROSENTHAL, M.D.

PHILADELPHIA.

No feature is so conspicuous that proves the specific character of antitoxin as a remedy in diphtheria, as its influence on the mortality records of a city. The *Berliner Medicinische Wochenschrift* was the first to attempt a collective investigation in this direction, and the table so collected and published showed such remarkable results as to become the most potent factor in an argument.

Statistics, to become of value, must be truthful, not only as regards figures, but they must take into consideration the difficult elements that control them. For instance, we should take into consideration under what auspices they were begun, and for what purpose; whether they be the result of certain conditions always the same, or unequal, as an epidemic, or not; again, whether they are the result of a collective body—as the American Pediatric Society—whose purposes are to obtain truths, or whether they be the result of the general reports of health boards, or of indifferent individuals. Of the greatest value and more specific would be the statistics obtained from hospitals devoted only to the treatment of such diseases.

Whatever has been the source, the result in the study of the statistics in the antitoxin treatment of diphtheria has been the same, and whether it be from hospital practice, private practice, or the collective investigation of different medical bodies, the surprising diminution in the death-rate has been so unanimous that this truth remains unquestioned.

No one is better versed in the art of compiling, collating and presenting statistics than Professor Biggs, and in text and other books of reference, the story of antitoxin would be incomplete without his work being quoted. The honor remains with Dr. Biggs to place antitoxin on a certain well-defined footing, and his reports are almost always taken as a basis for comparison. In his various papers, he has gleaned the work of various health boards of different cities, both in this country and abroad, and has presented in an understanding and interesting form, the results thus obtained. As his work is public property, and at this moment is known to all, it would be a repetition of facts to give them here. However, I will briefly summarize, so that I can give his figures as an additional proof, and as a basis of anything new in this paper.

In "Bulletin Number 3" of the New York Health Department, Dr. Biggs presents the results of the four large cities, New York, Berlin, Paris and Chicago, and conclusively shows the fall in the death-rate. For example, in Paris alone, the monthly mortality before the "antitoxin period" was from 108 to 180; after the period it fell to 45 to 56. In Berlin, before the period, the death-rate was 114 to 117, which fell to 47 to 54. In New York, before the period, it was 236 to 317, after the period, 168 to 207. But the most surprising and convincing evidence comes from Chicago, and, as a demonstration, is here published a chart, which showed how a rapidly-rising death-rate was checked by the introduction of the serum, in October, 1895.

The lines for both years show relatively small number of deaths during the summer, but a rapid increase in the autumn months.

It will be noted that during every month of the second year up to and including October, there was an increase in the fatal cases over the previous year, and that in October the daily death-rate was 8.1 a day, as against 5.5 the previous year. The use of antitoxin was then begun and its influence is graphically shown in the chart. The dotted line B B indicates the mortality from April, 1894, to April, 1895; the line *a a* the mortality from April, 1895, to April, 1896. Antitoxin was introduced at the close of October. To summarize: Of 1468 cases treated by the inspectors, the mortality was but 6.4 per cent.; and of 1112 cases injected during the first three days, but 2.5 per cent.

Philadelphia alone has the unique distinction of presenting a very slight change in her mortality record. This change is so small that the advent of the antitoxin has made no appreciable alteration. However, we can show some decline, and if this is small, the record presented since the antitoxin period has been the smallest ever noted. As the Philadelphia statistics have never been presented, I now give them. Independent investigations made by myself have shown some remarkable results. They date from 1882, and were first begun to prove the unity of diphtheria and croup. My investigations were mostly clinical, and for the purpose of proof—being one of the first to recognize and prove the unity of these diseases from a clinical standpoint—I sought and obtained the assistance of Mr. J. V. R. Turner, the registrar of the Philadelphia Board of Health, and through him obtained the statistics of Philadelphia[1], and presented them for this purpose. I sought to show that whenever diphtheria was more or less prevalent in Philadelphia, so was croup, and the ratio was always the same, as was the mortality. These statistics are of value here in this paper, for they show, no matter how the rest of the world progresses in the science of preventive medicine, that Philadelphia stands alone. Remarkable as it seems, it is nevertheless true, for, being a resident of this city, I still meet many who have not taken up the modern method of treating diphtheria, and a majority of those who only use it partially. For such as these it will take more than figures to convince, and the only argument that suffices is the brute force of experience.

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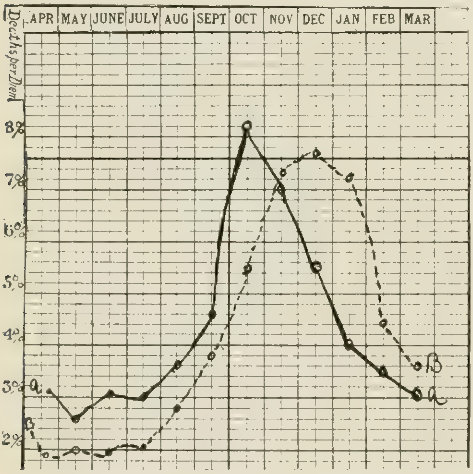
*Presented in a Symposium on Diphtheria, before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.



Records have been carefully kept only since 1887, and the following table is an abstract of those given me by our municipal authorities. They will explain themselves.

Year.	Number of cases reported.	Deaths.	Per cent.
1887	1395	858	61.5
1888	1170	623	53.25
1889	1455	727	50
1890	1820	943	52
1891	5153	1874	36.25
1892	4950	1435	30
1893	3471	1159	33.33
1894	3608	1396	38.66
1895	3853	1349	35
1896	3595	1149	32
1897	5405	1474	27.25
1898	4415	1154	26
1899, to May 13th	1277	345	27

To criticise would be to show our shortcomings. There are some in Philadelphia to whom the statistics just presented will be as new as the antitoxin treatment. There are, however, others who have gone on record, and have given results as good as any anywhere. It is surpassing strange that the city that contains a thoroughly equipped bacteriologic and biologic laboratory, and which was among the first to give to the profession, not only the product antitoxin, but also all the literature appertaining thereto, so that the treatment could be rationally followed, should be so far in the rear with its statistical results. But still, with the lack of that unanimity which should be shown in the acceptance of certain facts, Philadelphia still shows a decline in the death-rate. The decline would be still more pronounced if instead of the weak serums furnished by the Boards of Health there were employed other serum of greater concentration and potency, such as Mulford's.

It would therefore not be to the interest of such a wonderful remedy to rely wholly on the statistics of certain localities. But when we find that without exception there is a certain decline in the death-rate of all cities, whether it be large or small, the truth remains unquestioned that this is not from chance alone, but due to certain well-proven causes, and in the question of diphtheria, antitoxin alone remains as the only factor that has influenced all statistics in her favor.

The change that has been ours to witness is still before us, and in nothing is it more marked than in the method heretofore used in presenting our results in intubation. Where before we would speak of our results in percentages of recovery, now we speak of our mortality record, a change that is no more remarkable than in other varieties of diphtheria, and which can only be ascribed to the specific influence of the serum.

517 Pine Street.

THE DECREASE IN MORTALITY OF DIPHTHERIA SINCE THE INTRODUCTION OF TREATMENT WITH ANTITOXIC SERUM.*

BY WILLIAM P. MUNN, M.D.
DENVER, COLO.

The fallacies of statistics are often only too obvious. Ignorance and prejudice therefore gibe at scientific advances the efficacy of which must necessarily be proven by figures. No advance in practice within recent years has been subjected to a more severe test in this regard than has the antitoxin treatment for diphtheria.

Strenuous objection is made, and with some degree of reason, to the exclusion from the mortality rate of some tables of cases to which the treatment had been administered as a last resort, when the patient was practically moribund. It is only fair that this objection should be considered, but it is also fair that it should be offset by the fact that very many practitioners who believe in and practice the use of the antitoxic serum reserve it only for those patients in whom the clinic aspects become well marked, while they refuse to administer it to all as a routine measure, especially excepting those who suffer from a mild diphtheric infection—bacteriologically positive—showing no more severe clinic reaction than a slight smear on reddened fauces.

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[1] Published in Medical Bulletin, September and October, 1894.

*Presented in a Symposium on Diphtheria, before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The experience of individuals and of large children's hospitals has been the basis of most of the statistic reports that have appeared in literature. An analysis of all the cases of diphtheria occurring in the whole population within a definitely bounded district during a long period and including those that have had all kinds of treatment and have been under the care of practitioners of varying degrees of belief and grades of skill, will furnish a different and highly valuable statistical base of information.

It is therefore my purpose in this paper to very briefly set forth a compilation of information which seems to me to furnish new and valuable cumulative evidence in regard to the effect, on the mortality from diphtheria, of the introduction of treatment with the antitoxic serum.

Denver is a city with a population of 167,000, and the city covers an area of 49½ square miles, the altitude is exactly one mile above sea-level. The statistics of diphtheria prevalence and mortality for ten full years have been collated with a fair degree of accuracy, and represent reasonably reliable observations. Due allowance must be made for all of the elements of error that may enter into the statistics of any city. The population at the beginning of the period was but 96,000, and the area covered was sixteen square miles.

The antitoxin first reached Denver in November, 1894, and but three patients, all of whom recovered, were treated with it before Jan. 1, 1895. The ten-year period may then very reasonably be divided at that date; the six years before 1895 being the full period for which we have figures, as the "pre-antitoxin period;" the four years from January, 1895, to Jan. 1, 1899, representing the "antitoxin period."

During the pre-antitoxin period the diphtheria statistics were as follows:

Year.	Cases.	Deaths.	Mortality.
1889	233	109	46.5 per cent.
1890	720	277	38.6 per cent.
1891	468	175	37.4 per cent.
1892	300	89	29.7 per cent.
1893	318	106	33.3 per cent.
1894	233	71	28.7 per cent.
Totals	2272	827	36.4 per cent.

The foregoing figures, compiled from the official records, exhibit a high mortality, but not in excess of that known to have prevailed in almost all other communities. Still the general mortality shown by the above table is probably too high. The principal factor of error was undoubtedly one of omission in the reported cases. Mild cases were altogether overlooked and second and third cases in families where one case had already been reported were not placed on the records. The slight progressive decrease of mortality from 1889 to 1894 may be attributed to progressively more accurate reports of cases.

The establishment of the bacteriologic laboratory at the beginning of the year 1895 led to an undoubted increase of recorded mild cases. This increase, however, was to a certain extent offset by the exclusion from the records of many pseudo-diphtherias, which would formerly have been officially recorded as diphtheria on account of their clinical appearance.

The reported cases and mortality since Jan. 1, 1895, have been as follows:

1895	248	40	16.1 per cent.
1896	246	19	7.7 per cent.
1897	297	43	14.5 per cent.
1898	386	34	8.8 per cent.
Total	1.177	136	11.56 per cent.

TREATED WITH ANTITOXIN.			TREATED WITHOUT ANTITOXIN.		
Cases.	Deaths.	Mortality. Per cent.	Cases.	Deaths.	Mortality Per cent.
123	9	7.3	125	31	25.1
107	7	6.5	139	12	8.7
147	6	4.1	150	37	24.6
230	8	3.5	156	26	16.7
607	30	4.96	570	106	18.6

In order that the totals of the two tables may be more readily compared I here give them in parallel vertical columns:

	Pre-antitoxin Period. 6 years.	Antitoxin Period. 4 years.
Cases	2272	1177
Deaths	827	136
Mortality	36.4 per cent.	11.56 per cent.

To put it plainly, in the past four years Denver had almost half as many cases of diphtheria as it had during six preceding years, with but one-sixth as many deaths from the disease. The mortality per cent. has been decreased, by some influence, to less than one-third what it used to be; and this is for *all cases* without reference to treatment.

When the cases for the last four years are divided as to treatment with and without the antitoxin, the difference in mortality presented is still more astonishing: Six hundred and seven cases treated *with antitoxic* serum had a mortality of 4.96 per cent.; 570 cases treated *without the antitoxic* serum had a mortality of 18.6 per cent. That is, when the antitoxin was omitted from the treatment four times as many died as when it was used.

This long series of cases, covering every instance of illness from diphtheria known to have occurred within an area of fifty square miles in four years, including all kinds of doctors—good or bad—and all the neglected cases, and all the ones to whom the antitoxin was given as a last resort even when the administrator himself had no hope, showed but one-fourth as great mortality among those treated with antitoxin as among those treated without it.

From the standpoint of severe scientific accuracy one would be justified in a further analysis of the cases and the elimination of moribund ones. But elimination always gives rise to the charge that the figures are juggled. We can well afford to let the figures carry the lesson that is perfectly plain on their surface. Every case of diphtheria should have the antitoxic serum administered. Other statistic compilations have shown that the mortality grows progressively less as the cases are treated with it early in their progress. If every diphtheric infection could be treated on the first day that clinical symptoms are manifested the mortality of the disease would be but a fraction of 1 per cent.

To this statement of the effect on the relative mortality due to the use of the antitoxic serum I desire to add a statement of the actual reduction in diphtheria prevalence and death loss due to the intelligent and purposeful application of preventive measures under the guidance of the bacteriologist.

In 1890 there occurred in Denver 720 cases of diphtheria, of whom 277 died. This was a rate of 680 cases and 261 deaths per 100,000 of population. Had the same rate persisted, the number of cases in our population of 167,000 in 1898 would have been 1135, and 435 of them would have died. Compare these figures with the actual ones—386 cases and but 34 deaths;—in other words, a saving for the one year of 1898 of 749 cases of illness due to diphtheria and 401 deaths from that disease if the 1890 ratio of prevalence and death had continued to prevail. Had the 1890 ratio of prevalence and death continued throughout the whole ten years, there would have occurred in the actual population of Denver during those years a total of 8993 cases of diphtheria, of whom 3450 would have died.

By the gradual operation of the preventive measures that have been perfected during these ten years, the actual number of cases of diphtheria was reduced to a total of 3449, or a saving of 5444 cases of illness from this one disease. The actual number of deaths from diphtheria has been reduced from the probable total of 3450 to an actual death-loss of 963, or an actual saving of 2487 lives. Had we been able to apply the modern preventive methods of the last four years with an average per annum of but 294 cases and 34 deaths throughout the whole decade, the actual saving of human life would have been still greater, approximating 3200.

This saving of human life and of actual human suffering has been the gift of regular scientific medicine to the communitty in which I live during the past decade in regard to the one disease, diphtheria, alone. It is a gift that has been duplicated in so far as actual life-saving has been concerned in regard to typhoid fever. This public benefaction has been made possible only through the discoveries of modern medicine and their application by the regular medical profession in the interest of the public welfare. It has been forced by us on an unwilling and ignorant public whose individual members and official representatives thought that we were struggling for our own welfare instead of the public good. A lawyer whom the fortunes of politics landed in the position of Governor of Colorado has even had the assurance to place on the public records, in a message wherein he vetoed a medical practice act, the silly assertion that no advance in science for the public welfare had ever been made by the regular medical profession.

The great object-lesson of the diminution of diphtheria and typhoid fever in the community where he himself has been privileged by a merciful Providence to live for thirty long years has been altogether lost on him. We are sometimes so irritated by the existing order of things that we protest, like good old David, against the folly of those who are high in power. We ask ourselves, "Is it worth while to labor for the welfare of a blind and thankless people?"

The answer is older than holy writ. It lies within our own hearts and it must still be the inspiration for future work. Duty done is its own best reward. The plaudits of an ignorant world might make work easier, but can not make it more honorable; the crackling of thorns under the pot adds no heat to the fire.

THE ASSOCIATE INFECTIONS OF SCARLET FEVERS.*

BY W. J. JAQUES, M.D.

CHICAGO.

The object of this paper is to call attention to the fact that scarlet fever is seldom a single infection, and its successful treatment necessitates a knowledge of all the factors contributing to the abnormal condition.

It has not yet been positively demoustrated, at least it is not generally accepted, that the causative agent of scarlet fever is a germ, although there is much evidence to indicate it. Each case seems to come from some other case, and under certain conditions it is known to be highly contagious. It also resembles other diseases which we know are caused by a germ. The difficulty of staining the tubercle bacillus delayed its identification. Some similar characteristic may be preventing the identification of the scarlet fever germ.

During the past winter, Dr. J. W. Class[1], Chicago, called the attention of the medical world to a coccus that he found constantly present in the scales and mucus taken from scarlet fever patients. Its size is exceedingly variable. From a small dot hardly to be seen with a one-twelfth objective, it becomes three or four times as large as the gonococcus, which it resembles in shape. The size depends on the age of the culture, and the growth in the mouth is less than that on culture-media. In growing, the cultures produce a gelatinous substance which is drawn out in strings with a platinum needle. It does not seem improbable that these cocci may enter the blood in their minute form, clogging and congesting the capillaries.

Since the description of this germ and the method of staining were given, I have taken cultures from all cases of scarlet fever coming under my care and found it uniformly present. I have also found the germ present in a small proportion of the cultures which I examined for suspected diphtheria. In three cases of scarlet fever I was enabled to make the diagnosis of scarlet fever before any appearance of rash. I did this from the malignancy of the germ as indicated by the numbers and the rapidity of their growth. I have also found the germ present in the throats of adults and nurses who were taking care of patients with this disease. However, it takes the combined evidence of many observers to arrive at definite conclusions, and until this, or some other, germ is identified and enough of its characteristics are known to show us a better way to protect ourselves, we must rely on the knowledge and experience of the past.

Every advance made in scientific medicine must be based on an accurate knowledge of physiology. When the functions and conditions necessary for normal metabolism are understood, it will not be difficult to comprehend the causes of abnormal metabolism, or disease.

We should keep before us the importance of the individuality of the cell; that it is the basis of all forms of life from the minutest bacteria to the giant of the forest. All the higher forms of life are built up out of structural units similar to the simple bacterial cell.

The human body, for our present purpose, may be considered as made up of groups of individual cells, performing distinct as well as general functions. The pathogenic organism that attacks it is also a cell having like functions of absorption, excretion and reproduction. It becomes pathogenic when it finds in the human body suitable conditions where it can complete its cycle of activity.

The study of a germ disease, then, resolves itself into a study of the patient and those conditions which produce susceptibility; also a study of the germ and the environment which causes it to become pathogenic. A contagious disease may be likened to a union of two pieces of chain, the links of one piece, produced by a cycle of events in the germ, and the other by a cycle of events in the patient. The chain may be broken by breaking one of the links.

A germ is pathogenic only in the presence of a susceptible individual. The environment which causes susceptibility in a patient may also increase the virulence of the germ. During the winter months, when confinement and lack of sunshine causes a decrease in vital resistance, the virulence of the germs of diphtheria, pneumonia and influenza is greatly increased.

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The whole phenomena of life is a battle of cells. Outside of age and hereditary influences, the survival of the fittest depends on environment. By changing the conditions of environment in the patient, we may prevent that part of the chain from forming. By changing the environment of the germ, the chain is broken there. No one contracts tuberculosis until a suitable soil is first produced on which the bacilli will grow. The cholera bacillus is pathogenic only in the presence of decomposing filth.

Susceptibility to many germ diseases may be caused by exposure, lack of nutrition, loss of rest, or any other factor which causes a lowering of physiologic resistance; but susceptibility to malaria and diphtheria may exist in health. In many fermentative processes the germs succeed each other, one preparing the way for a second. A person may be susceptible to but one disease and that may produce susceptibility to another. Phthisis often follows pneumonia. Sanarelli points out that the causative germ of yellow fever is the bacillus icteroides, which multiplies in the human body to a limited extent; that the toxin produced by it facilitates secondary infections of all kinds which cause death.

It is my belief that a similar condition exists in scarlet fever. A distinct contagious element enters the body and multiplies. To a greater or less degree it causes constitutional disturbance and characteristic erythema. The physiologic resistance of the patient is lowered in direct ratio to the virulence of the contagion. The Klebs-Lœffler bacilli and pus germs infest the mouth and may remain there for long periods without causing disease. When from any cause the physiologic resistance becomes lowered, they invade the tissues. Thus, if a child contracts scarlet fever and other germs are present in the mouth, it is highly probable that secondary infection will follow.

Since our use of the microscope in the study of these infections, we are enabled to distinguish the clinical symptoms which accompany the invasion of many of these germs. In pure Klebs-Lœffler diphtheria there may be little pain and no temperature. The presence of diphtheria may be completely covered up by the more pronounced symptoms of scarlet fever. Clinically, it is impossible to diagnose the presence of diphtheria with scarlet fever during the first thirty-six hours. If the rash appears at the end of this time, the doctor usually makes the diagnosis of scarlet fever, and is satisfied. In such a case, if death should occur, the most important factor in causing the death, namely the diphtheria toxin, may not have been recognized.

The most dangerous infection associated with scarlet fever is diphtheria. Unfortunately many of the textbooks speak of this as being rare. Rapid transit and commercial exchange have greatly aided the distribution of germs. A few years ago an epidemic would not spread beyond a single neighborhood during the period of susceptibility. Now the spread of the influenza bacilli from one end of the continent to the other is only a matter of hours. Every factor which affects the condition of mankind must change his relation to germ disease; and every new method of hygiene and sanitation must affect the environment of the germ; hence the constant change in germ diseases. The use of diphtheria antitoxin has had the effect of lessening the fear of the public, and less care is taken to isolate diphtheria patients; hence a wider dissemination of these bacilli.

"F. Ranke[2] found diphtheria bacilli present in the throats of 53.7 per cent. of scarlet fever patients in Munich. Goodall[3] made a bacteriological examination of 87 cases of scarlet fever admitted into the Eastern fever hospital. The examination was made immediately after admission. The diphtheria bacilli were found in 19 cases. They were mild and would not have been recognized clinically as diphtheria. One of the cases subsequently developed post-scarlatinal diphtheria and so did four other cases in whom no bacilli were found on admission. Sœrensen[4] examined 1547 scarlet fever patients on admission to the fever hospital at Copenhagen and found diphtheria bacilli in 2.5 per cent. Beggs[5] found diphtheria bacilli in the throats of 51 out of 140 cases of scarlet fever examined." The spread of germs being such an uncertain factor would explain partly the difference in results of these observations.

While the Klebs-Lœffler bacilli are comparatively rare, the pus germs are almost always present. The streptococcus pyogenes causes the most painful and lasting of the anginas. Most cases of scarlet fever, after the symptoms of the specific contagion abates, resolve themselves into streptococcus infections. The first infection leaves the patient susceptible to invasion and there is often a general infection of the tissues and glands of the buccal region. The inflammation also extends into the middle ear and injures the delicate bones of the auditory apparatus. The judicious use of antistreptococcic serum is of value in preventing such sequelæ. Not every case of scarlet fever requires the serum. From the clinical symptoms of the patient, and the malignancy of the pus germs as indicated by the culture, the physician must decide as to treatment. In most cases death is preferable to a deaf and dumb child, and it is as important to prevent scarlet fever from reaching the suppurative process in the ear as it is to cure the disease.

During the season of its prevalence influenza may often be found associated with scarlet fever, but its toxin has not such fatal effects on children as on adults. Measles, mumps and other diseases of childhood are apt to follow or be found with scarlet fever, appearing either as primary or secondary infections.

It should not be inferred that in these associate infections each germ presents itself in its most malignant form, thereby increasing the severity of the cases many fold. Usually the conditions for malignancy favor but one germ at a time, the rest appearing in a minor rôle until a change of conditions permits their more rapid development.

Proceeding on the belief that scarlet fever is nearly always accompanied or followed by other infections, with a similarity of clinical manifestations during the early stages, it must be apparent how important a part the microscope has come to play in a correct diagnosis. If it can be known just what germs are present and the degree of malignancy, as indicated by their growth, treatment may assume the initiative and defensive, or preventive form, with a more favorable prognosis than is possible with a delayed diagnosis.

The first step to be taken in the treatment of every angina, however mild it may appear, should be the taking of a culture. This should be followed at intervals during the progress of the disease by other cultures, to show by the morphologic changes whether the infection is subsiding or increasing; also whether or not the conditions have been favorable to the growth of other germs.

With the bacterial evidence well in hand, the clinical symptoms become clearer and more definite, consequently easier to control by treatment. There is no one line of treatment which will fit every case of scarlet fever for the very reason assumed in the beginning, that it is so often modified and complicated with other infections. The kidneys, heart and nervous structure must be closely watched. The larynx may become involved. Nutrition must be strictly maintained and the destruction of renal tissues prevented. The selective action of scarlet fever poison and the toxins of associate infections must be kept constantly in mind. The stupor resulting from scarlet fever poison is not so serious nor important as if it is caused by the Klebs-Lœffler bacilli. In the latter case a process of degeneration of the nerve center is instituted which is likely to continue; it may be slowly or rapidly, resulting fatally; if not at once, it may be days or weeks after apparent recovery. This is not so with stupor caused by simple scarlet fever infection.

The prognosis is more favorable when this mental condition is caused by the scarlet fever toxin, and this knowledge should inspire hope while life is present in the patient. As long as the heart beats, every means should be exhausted to sustain the strength. In one of my cases oxygen gas and artificial respiration for thirty minutes tided the child over the crisis of the disease.

In malignant and prolonged cases of scarlet fever, the assistance of one or more trained nurses is absolutely necessary. This training must include infectious diseases, which are not usually part of the hospital course.

Not only should the nurse be familiar with the different manifestations of scarlet fever and the best methods of meeting them, as well as the most effectual means of disinfection, but she should be reasonably satisfied of her own immunity. Neither nurse nor physician should be handicapped by a fear of the disease, as the successful issue of a case may require most strenuous efforts and even the constant presence of both for a time.

With all these conditions accepted and carried out, deaths from scarlet fever complications will probably not be eliminated, but they will be much reduced.

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BIBLIOGRAPHY.

1. Journal, April 8, 1899. p. 765.
2. Munich Med. Woch., Bd. 42, 1896.
3. Epidem. Soc. Trans., 1896.
4. Zeit. f. Hyg. u. Infections-Krankheiten, 1898.
5. Met. Asylums Board's Report, 1895.

WOULD SURGERY SUFFER IF IODOFORM WAS ABOLISHED?*

BY EDMUND C. BRUSH, A.M., M.D.

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ZANESVILLE, OHIO.

You may break, you may shatter the box, if you will,
But the scent of iodoform will linger there still.

If something else just as efficacious can be found, or is at hand, then iodoform should be forever banished, on account of its odor if for no other reason. This odor is unmistakable, and to-day the laity know it quite as well as the physician. "Once smelled, always remembered," is surely true of this promiscuously used drug. You meet a man on the street and, as he passes, you get a whiff of iodoform; you at once wonder whether he is a physician or a patient. You enter a sleeping-car and the well-known odor comes to your attention; you at once look over your fellow passengers for the suspected one. You get the same odor in the ballroom or in the church, and you at once wonder who has it concealed about the person and why.

I am fully aware that the reign of iodoform is on the wane, and, hoping to add to its non-use I present the subject here. To get substantial data from which to draw conclusions and to give influence, I sent out a circular letter to representative surgeons in Great Britain, Canada and the United States. All of these letters went to gentlemen who hold surgical positions, a large majority being professors of surgery in medical colleges. Medical schools in London, Edinburgh, Dublin, Quebec, Toronto, Montreal and twenty-two of the United States are represented in the replies; so that the information is general and not in the least localized. The circular letter read as follows:

> Doctor:—I am preparing for the coming meeting of the American Medical Association a paper entitled "Would Surgery Suffer if Iodoform Was Abolished?" In order to give weight, either for or against the question, I am writing to one hundred representative surgeons and asking them to answer the accompanying questions. Will you favor me by answering the questions and returning this letter in the inclosed envelope?
>
> Sincerely yours,
>
> E. C. Brush.

The first question asked was: "What germicidal powder do you prefer? Of the 84 replying, 27 used iodoform, 24 used no powder of any kind, 12 boric acid, and 8 used aristol. The remaining 13 used acetanilid, nosophen, iodol, etc.

The second question was for second choice of powders, and the answers have no special significance.

The third question was: "Have you seen any bad effects from using iodoform? If so, what?" Seventy-three report that they have seen bad effects, 11 have not, but 4 of the 11 have seen no bad effects because they did not use the drug.

The fourth question was: "Would, in your opinion, surgery suffer if iodoform was abolished?" Thirty-seven think that the drug could be abolished without any detriment to surgery, 47 that surgery would suffer. Of these 47, 27 think the detriment would be in a general way; 12 limit the loss to the treatment of surgical tuberculosis, and 8 consider the loss to be only in connection with its use in the manufacture of gauze, and in specific cases.

The third question: "Have you seen any bad effects from using iodoform? If so, what?" is the most important and the one bearing directly on the question at issue. Please remember that 73 out of 84 report bad effects, and these range from a slight local dermatitis to death; 28 report local dermatitis, 3 general dermatitis, and 5 report eruptions, and 20 iodoform poisoning without any qualification; 2 report delirium and collapse, 5 intoxication, 14 general systemic effects, 1 congestion and inflammation of the kidneys, 6 delirium, and 1 reports paralysis. Five deaths are reported.

The difference between the number of ailments reported and the number of gentlemen reporting them is due to the fact that several different surgeons report several different toxic effects. Then, too, it is evident that many of them, although using different words, probably mean the same thing. For instance, 20 mention iodoform poisoning and 14 general systemic effects. The two expressions are, no doubt, in a measure used synonymously. It will be noticed that about all of the known poisonous effects of iodoform are mentioned by the 73 surgeons who report them. It might be well to remember that 73 form a very small proportion of the number of physicians in this world who have used or are now using iodoform.

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Let me give some individual answers and opinions. Dr. John H. Brinton, Philadelphia, professor of practical surgery and clinical surgery, Jefferson Medical College, uses as a powder, "acetanilid alone or in combination with boracic acid and aristol." He thinks surgery would suffer without iodoform. Dr. H. H. Mudd, professor of surgery and clinical surgery, St. Louis, uses some preparation of boric acid, and in reply to the question of surgery suffering from the abolishment of iodoform, writes, "no, not seriously." Dr. L. McLain Tiffany, Baltimore, of Johns Hopkins Hospital, and professor of surgery in the Baltimore School of Medicine, uses no dusting powder and thinks that surgery would suffer if iodoform was abolished, "in local tubercular troubles undoubtedly." Dr. P. S. Conner, Cincinnati, professor of surgery, Ohio Medical College, does not use any powder as a rule, but usually aristol when any is used. He thinks that iodoform could be abolished without any detriment to surgery. Dr. N. Senn, Chicago, professor of surgery, Rush Medical College, writes, "as dusting powder I use boracic acid 4, salicylic acid 1." To the last questions he answers, "yes, I attribute to iodoform valuable antibacillary action in case of localized tuberculosis and inhibitory effect in pus microbes." Dr. G. G. Kenyon, San Francisco, surgeon to St. Luke's Hospital, etc., uses acetanilid and thinks that surgery would suffer without iodoform. Dr. A. Primrose, Toronto, Canada, professor of surgery, University of Toronto, uses iodoform in tubercular cases only. Dr. I. G. Roddick, Montreal, Canada, professor of surgery, McGill University, uses it in tubercular cases; as a dusting powder he uses nosophen, iodol and boric acid. Dr. M. J. Ahern, Quebec, Canada, professor of surgery, L'Université Laval, uses iodoform and thinks surgery would suffer without it. The same is true of John Chiene, Edinburgh, Scotland, professor of surgery, University of Edinburgh. Dr. Christopher Heath, London, professor of surgery, University College, writes: "I consider iodoform the best antiseptic in all operations about the mouth and that the use of it has in my experience considerably reduced the mortality after operations for removal of the tongue." Dr. James Berry, London, surgeon to the Royal Free Hospital, says: "For clean, i. e., aseptic, wounds I never use iodoform or any other germicidal powder. I treat all such wounds by the dry aseptic method, and for several years have not used any kind of antiseptic to the *interior* of such wounds. For septic wounds, open sores, etc., I often use iodoform and find it useful. I have on several occasions seen, in the practice of others, bad effects and even death, itself, follow the use of iodoform. These have been chiefly cases in which large amounts have been buried in a wound. As these cases were not in my own practice, I am not at liberty to mention any details. I have several times seen a low form of delirium, attributable, I believe, to the iodoform, follow its excessive use in cases of removal of the tongue. I, myself, never use it in such cases. In reply to your fourth question, I think that surgery would suffer if the use of iodoform in open, i. e., septic, wounds were given up, but I do not think that surgery would suffer if the use of iodoform in the interior of aseptic operation wounds were abandoned completely."

Dr. Charles B. Ball, professor of surgery, University of Dublin, writes that he uses "boric acid and glutol in all non-tubercular cases." The question, "would surgery suffer if iodoform was abolished?" he answers with: "I do not think anything answers so well after excision of a tubercular joint."

A careful summing up of the answers given to the inquiries makes a strong case against the use of the drug excepting to a limited extent and in a limited number of cases. Many surgeons think that surgery would not suffer if there was no such thing as iodoform. There is no doubt that the indiscriminate use of iodoform has done untold injury. If those who use it in local tuberculosis and in specific cases had something else just as good, iodoform would really lose its chief supporters.

So the answer to the title of this paper, "Would surgery suffer if iodoform was abolished?" can be written, "Yes, to a very limited extent!"

Let me predict that in five years, by reason of the discovery of better things, the answer can be written, "No, not in the least!"

DISTILLED WATER AND BOILING FOR THE STERILIZATION OF SURGICAL INSTRUMENTS.*

BY W. K. ROGERS, M.D.,

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The effort to find a means of trustworthy sterilization of surgical instruments has been a particularly perplexing task to the oculist, in view of the extreme delicacy of most of the instruments used by him, and the subject has, perhaps, gone through more phases in his hands than has been the case even with the general surgeon. An ideal method has yet to be found, but the writer has been so much better satisfied with the results obtained by boiling instruments in distilled water, than by any other, that he feels impelled to go into a few brief details and comparisons with some other methods in the hope that others may avail themselves of this practice until better means can be developed.

It is important to emphasize that by distilled water is not meant the product of wholesale vaporization so often masqueraded under that name, in this day of speed at any price, to the detriment of solutions which it is intended to form, and the deception of all who confide in it. The water must be condensed steam, such as a chemist would use for careful analytic work, and not cooled vapor. If attention is paid to this essential detail, the most delicate metal instrument may be boiled for an hour without impairing its surface or sharpness. Ten minutes, however, suffices to sterilize a bright, mechanically clean instrument. Ivory handles, if properly fastened, will stand the same treatment, except that they will become a little yellow if boiled for more than twenty or twenty-five minutes. It need scarcely be added that instruments must be lifted from this solution before cooling, as even the most perfect aqueous product of the still will cause rust under favorable circumstances.

The writer's attention was attracted to this procedure some five years ago, as no amount of soda nor other chemical introduced into our lime impregnated water would prevent a considerable deposit on the surface and the ruin of the edge of instruments. Distilled water was substituted for hydrant water without any thought of a difference in the effect of its use, but the result was so gratifying that a little care was taken to note the contrast between this and other methods, and between the use of perfectly and imperfectly distilled water, with the conclusion that if instruments were to be sterilized by boiling, the farther one departed from perfect purity of the water, the worse was the result.

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The addition of soda to ordinary water seems to allow comparatively large instruments of simple construction to be boiled without injury, but a deposit takes place on the surface which, when involving delicately or intricately made instruments, results in more or less damage and is especially hard on cutting edges. I have found sterilization by vapors so unreliable that I will take up no time with the details.

Chemical sterilization has also proven very unsatisfactory, all aqueous solutions having a tendency to attack the edge of knives. Only one substance, formalin, when used according to the method so admirably worked out by Dr. Lippincott of Pittsburg, has seemed to be efficient. But the process involves prolonged immersion and practically means keeping one's armamentarium in the solution, which it would seem might be rather inconvenient, especially with the large equipment of the general surgeon. And for operations within the eye, instruments must be wiped with some sterilized substance before they can be used. Several other chemical substances were tried, and among them lysol was found to be rather the least objectionable, but in any strength it can not be relied on to sterilize infected instruments in a reasonable time. A knife blade thickly coated with pus from an ordinary phlegmon retained active pyogenic germs after two hours' immersion in the undiluted solution. A similarly infected blade, when wiped clean, became sterile after one hour's immersion in a 1 per cent. solution, but the edge had become perceptibly dulled. A control blade, not so disinfected, yielded an active culture in gelatin. Practically the only objections to this method were the damage resulting to cutting edges from all aqueous solutions, and the necessity, as in the case of formalin, of wiping instruments for intraocular operations.

The absolute reliability of boiling water is so well appreciated that no bacteriologic experiments were made in its behalf, the writer confining his attention entirely to the effect produced on cutting edges of instruments. If our ordinary hydrant water was used, the edge of a knife was ruined, and in fact the whole instrument was damaged. The addition of soda to the water prevented the latter trouble, but only slightly lessened the harmful result to the edges. Rain water, and the condensed vapor of the artificial-ice establishments yielded less disastrous results, but still a knife boiled in these solutions, even with the addition of various preparations of sodium or potassium, was unfit for delicate use. As a consequence, inquiry of a large number of general surgeons elicited the information that, while instruments in general were usually prepared for operations by boiling, knives were simply scrubbed carefully, or scrubbed and dipped in alcohol. The efficiency of alcohol as a disinfectant has been so frequently questioned that its use seems almost superfluous.

In conclusion it was found that not only may instruments be safely boiled in distilled water a sufficient length of time to become sterile, but also if distilled water is used in a sterilizer that is free from oxidized metal the vapor and steam thus generated can be availed of for the preparation of instruments, dressings and other appurtenances of an operation without harmful results to any of them, which would seem a convenience and simplicity greatly to be desired.

THE EYES AND EARS OF EMPLOYEES OF TRANSPORTATION COMPANIES.

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Color-blindness is an abnormal condition of the visual apparatus, causing an inability to accurately, invariably and properly distinguish the colors of the solar spectrum. Several varieties exist, but the most frequent is that causing difficulty or impossibility in distinguishing between red and green, which is especially unfortunate, as these colors are universally adopted as important signals in transportation service.

Investigations indicate the universality of chromatic aberration in all observed nations, but with diminished frequency in the educated, and in peoples possessing great love for colors and artistic decorations such as the Africans, Japanese and Chinese. Indeed, it is claimed by some observers that the people of India are able to perceive 300 different shades of colors not perceptible to European eyes.

No evident physical manifestation exists rendering an objective diagnosis possible. Opinions as to color visual acuity must therefore rest on tests, which are well described in text-books.

My brother, Dr. W. H. Allport of Chicago, in examinations of over two thousand negro men, failed to find a single case of even incomplete color-blindness. This has been observed by others, so that the observation is well authenticated.

Instances are occasionally recorded (Hilbert, Woinow, Hasner, Schröter, Mayerhausen and others) of excessive chromatic sensibility amounting to chromophobia, where the exhibition of specific colors produced great fear, pain and other neurotic sensations, probably of cerebral origin.

Lussona mentions two students, with aural sensations distinctly associated with chromatic conception. High voices produced subjective sensations of red; low voices of black. A bass voice sounded black, a baritone dark brown, etc. Toxic color sensations are noteworthy, as hyoscyamus niger, duboisin and atropin produce red vision, santonin and picric acid, yellow vision, etc. These instances point to cerebral color perception, and Samelsohn, Landolt and Wilbrand advocate a separate color cortex, which is, however, denied by O. Bull, Dahms and others.

The term "color-blindness" is misleading, and too comprehensive, and conveys the impression of invariable total chromatic exclusion. I would suggest the terms "color amblyopia" and "color amaurosis;" the first to indicate the frequent conditions of partial loss of chromatic sensibility without apparent lesion, the latter to indicate that rare condition denied by some authors, although vouched for by Querenghi and others, of total loss of color sense without apparent lesion, where all objects appear in black and white, like a crayon or photograph.

Color ambylopia or amaurosis is not induced by any chromatic alteration of the ocular media. It is probably occasioned by some abnormality of the receiving (retinal) fibers, the conducting (nerve, chiasm and tract) tissue or the perceiving (cuneus) apparatus. Pathologic alterations of the color receiving, conducting and perceiving elements in any of these anatomic and physiologic subdivisions, may alter chromatic comprehension, as color vision and form vision occur under similar conditions of reception, conduction and perception.

Color sensations depend primarily on the frequency of etheric vibrations, proceeding from colored objects. A ray of white light is synthetically composed of various rays of different wave lengths, each possessing distinct vibratory frequency, representing corresponding chromatic impressions. Pass such a ray into a darkened room, through a small aperture, on to a white screen, or through a transparent prismatic apex, and a separation of the ray into its constituent chromatic elements occurs, with blue or violet at one end of the spectrum, and red at the other, the former possessing about seven hundred and fifty million million vibrations to the second, the latter about four hundred million million. The intermediate rays, significant of orange, yellow and green, possess vibratory disturbances of from four to eight billions per second. These various etheric vibrations, which we ultimately designate as colors, fall on the retinal rods and cones with distinct but graduated degrees of intensity, dependent on their vibratory frequency, and these impressions are instantly dispatched to the cerebral cortex for analytic chromatic interpretation.

The phenomenon of primary retinal color reception is explainable by a series of physiologic processes, beginning, as just mentioned, by the dispersing from colored surfaces of light rays of differing rapidity of action.

The retina is assumed to contain three distinct nerve elements, corresponding and responding to the various degrees of etheric vibrations, ultimately interpreted as the three primary colors, violet, green and red, from which all chromatic varieties emanate. All varieties of light then impress the three groups of retinal color fibers at the same time, but with different degrees of intensity. The central portion of the retina is adapted for the reception of all three of the primary colors, and their multiplying shades. In the adjacent retinal zone, red is not distinguished, but green and blue remain. Still farther from the central retinal fibers only blue can be seen, and near the periphery merely black and white are distinguishable. We therefore have color amblyopia for red, green and blue, the latter being exceedingly rare, so that when color amblyopia is mentioned, it practically refers to either the red or green variety.

Stimulation of one set of retinal fibers, by etheric vibrations of definite frequency, from a red object, produces a sensation of red; stimulation of other sets by vibrations of differing frequency, produce green and blue—or violet—sensations. These may be merged or mixed with each other, in varying proportions, to produce all known colors, and the inertness or loss of any particular set of retinal nerve-fibers, or its corresponding color wave sensation, lessens or obliterates this chromatic element—with its modifying influence on all other colors—from the ocular and cerebral sensibility of an individual. Such a defect may include one, two or three of the primary colors, with proportionate elimination of chromatic perception, thus subtracting the missing color or colors from defective chromatic vision, and compelling such amblyopic to perceive colors, *minus* that which is missing, producing a modification in the appearance of all colors, in which the missing one naturally participates. For instance, a person who is amblyopic for red can only accurately comprehend those colors capable of production from varying and shifting degrees of green and blue—or violet—etc. It must not be forgotten, however, that such congenital defects of chromatic conception may not be complete in character, but merely partial, thus producing a fractional loss or weakness of individual color conception. Such cases are frequently difficult of diagnosis, as distinct lines of color amblyopia are not clearly drawn, and tests may vary from day to day.

The above outlined theory of color reception is in favor with scientists, and comprehensively explains isolated chromatic subtraction, by inertness or loss of certain retinal fibers, which may involve any or all elements of retinal color control. It must, however, be remembered that ultimate chromatic perception resides in the cuneus, and is a cerebral function, and that no matter what may be the physiologic retinal arrangement, and whatever theory of reception may be adopted, the bulbar oculi is merely the gateway through which chromatic sensations pass and separate, en route for the cuneus, via the optic nerve, chiasm and tract.

Color amblyopia or amaurosis may be congenital or acquired, the former being indicated when commonly speaking of color-blindness.

Congenital color amblyopia or amaurosis is unquestionably a hereditary taint, frequently afflicting several members of the same family, and occurs in about 4 per cent. of the male, and less than 1 per cent. of the female population. The cause for this disparity is unknown, unless frequent color occupation incident to feminine vocations leaves its impress on the female sex, an argument favoring the color educational theories of Magnus, Cohn and others. If color familiarity in females may influence succeeding generations, and if oriental nations with lurid propensities show lessened color amblyopic percentages, why may not color education in schools impress, if not the present, at least, subsequent male generations? One benefit would at least result from color tests in school, viz., the early disclosure of color amblyopics, who would thereby avoid subsequent life occupations demanding chromatic stability. Congenital color amblyopia or amaurosis is a natural, often inherited defect, no more capable of alteration than blue irides or *normal* color perception. It is quite as impossible for color defectives to appreciate true chromatic qualities as for color experts to misunderstand primary spectral impressions.

Favre advocates color education for amblyopics hoping for curative results; but observation of this method evidences the accomplishment merely of a better appreciation of chromatic intensities or tone gradations, and associated nomenclature, which simply masks or disguises an incurable congenital defect, and augments the danger of employing such persons in positions of trust.

Color ignorance—which can only be cured by education—should not be confounded with color amblyopia, as no abnormal condition exists, but lack of chromatic exactness and nomenclature frequently causes suspicious indications, in persons unfamiliar with colors. Unbelievable ignorance frequently exists, concerning chromatic impressions and nomenclature, creating much misunderstanding and confusion, in tests where color *names* and not *comparisons* are principally used. Name tests should be employed, where applicants will occupy positions necessitating the quick communicating of colors to others, as in look-out men on ship board; but these tests should not be confounded with tests for color vision. Such confusion of purpose leads to unreliable conclusions, which not only are frequently favorable to a color amblyopic, who by luck, sagacity and experience in estimating color intensities succeeds in eluding detection, but also militates against an applicant with perfect chromatic comprehension, but ignorance of its nomenclature.

As Jeffries says: "The names of colors are naturally the objective expression of subjective sensations." Early observations and education associate names and objects together in firm cohesion. A cat is known as a cat, and a horse as a horse. Likewise, a certain color is known as red, another as blue, etc. A child might just as well, however, be taught to call a cat a horse, or red, blue, and remain in blissful ignorance of this misappropriation of terms until rudely disillusionized.

Color amblyopics are frequently unaware of their defects, their erroneous chromatic conceptions being to them of a real and unimpeachable character. Colors convey to them an actual, if incorrect, impression, which they retain and associate with certain exhibited chromatic tints. They have, for instance, heard green referred to as green, therefore when green is exhibited they often correctly call it green, although it to them appears what we would call gray, thus deceiving not only themselves but us. Association with objects and persons leads color amblyopics to associate objects with accepted chromatic expressions. They have heard cherries and strawberries called red, and leaves and grass green; consequently, when asked their color they answer correctly, although possessing no proper chromatic impression. It must not be forgotten that congenital color amblyopics usually unavoidably comprehend from early life that something is amiss with their color sense. This ill-defined knowledge may ultimately assume a definite understanding of their misfortune which they seek to disguise, especially if engaged in railroad or maritime service. They become very cautious in naming colors unless they have good reason to believe their impressions to be correct from observation, chromatic intensities, hearing other people's opinions, etc. The loss of one sense always augments the power of others, as witnessed in the blind and deaf, who frequently acquire incomprehensible skill in vicarious or compensatory service. Color amblyopics usually possess a keen discrimination of chromatic intensities, and base their interpretations of colors on these tone gradations, which are to them the essence of chromatic distinctions. While congenital color amblyopia is incurable, the acquired form is amenable to treatment, as its etiology is incident to tobacco, liquor and other toxic agencies, diabetes, albuminuria, exhausting illness, such as typhoid fever, head injuries, cerebral diseases, neurasthenia, syphilis, rheumatism, diseases of the optic nerve, retina, choroid, etc. It may occur in an individual—previously and favorably tested for chromatic perception—incident to some of the above conditions, and may occasion no comment because of its possible incipient and isolated character, lack of self observation by the individual affected, or determination on his part not to disclose a physical condition, which would be equivalent to his discharge if known. Therefore, acquired color amblyopia is the more dangerous form because unsuspected, ill-defined, and because the individual has not, as in the congenital type, become accustomed to the condition since childhood, and learned by observation, tact, ingenuity, analysis of color intensities, etc., to quite successfully cope with an inherited defect. It is therefore distinctly recommended that engineers, firemen, pilots, etc., should always be re-examined after injuries, illnesses, etc., and it is further advised that such employees who are known to be excessive consumers of tobacco and liquor should be subjected to inspection annually. Acquired color amblyopia is not of the evenly distributed and symmetric character natural to a congenital defect, but may be caused by pathologic invasions of any portion of the color receiving, conducting and perceiving apparatus, thus frequently producing erratic and peculiar chromatic phenomena. Color scotomas may be found in most portions of the visual field, but are most apt to be somewhat central in their location. For instance, central scotoma for red is quite characteristic of tobacco color amblyopia. It will be seen that in cases of acquired color amblyopia, with isolated patches of color scotoma, even though central in character, Holmgren's and other tests for color detection are totally inadequate for conclusive service, as, while a central color scotoma might exist at the macula, there would still remain sufficient peripheral tissue at other portions of the fundus to enable the individual to retain good color comprehension for such general tests. The perimeter is the only reliable method for the detection of such acquired chromatic defects.

Fortunately for the detection of acquired color amblyopia, the same pathologic conditions interfering with the proper detection of colors also occasions proportionate form amblyopia. This fact draws attention to existing poor vision, which usually causes the patient to seek ophthalmologic advice, and the disclosure of his acquired color amblyopia naturally follows.

If color amblyopia exists in 4 per cent. of the male population, and can easily be detected by tests, and if transportation companies use colored signals, which, if not readily comprehended, are a menace to life and property, and if such companies *voluntarily* operate roads, boats, etc., for the transportation of the public and its property, why should they not be legally and absolutely required to operate such systems with as little risk to the public and its property as possible; why, at least, should they not be required to honestly ascertain whether those in whose hands are placed the guardianship of human lives can see well, hear well, and readily interpret colored signals.

Objections to eye and ear examinations frequently extend beyond corporate negation, to labor organizations, that, ignoring the possible sacrifice of human lives, insist on the retention of members, under all circumstances. Such brotherhoods frequently assume dictation as to methods of examination, as happened with the Delaware and Hudson Canal Co., where the union, notwithstanding great fairness and liberality by the company insisted on discarding the wool test, and the adoption of lamps, flags, etc., as practically used in everyday life, a method of examination which is altogether incorrect, unscientific, and unfair, both to employer and employee.

Corporations, unions, etc., frequently profess skepticism concerning accidents traceable to color amblyopia, thus willfully disregarding several authenticated historical contrary instances, to say nothing of the ill-defined records of transportation accidents, where, under the etiologic headings of "Carelessness," and "Undetermined Causes," is found ample opportunity for the occurrence of calamities possibly and justly attributable to color amblyopia, poor vision and hearing.

Notwithstanding the voluminous literature on the subject, authorities frequently ignore the importance of color amblyopia, producing in substantiation, examples of engineers, pronounced by ophthalmic experts to be color amblyopics, who have operated engines for years without accident. The question is frequently asked: If color amblyopia is of such serious import, entailing preventable calamities, how may engineers guide trains safely for years, and then be pronounced congenitally defective by competent ophthalmologists? In the first place, there are many degrees of color amblyopia, already described, ranging from mere color insecurity to absolute color amaurosis. Therefore, an engineer may, by vicarious activity, often succeed fairly well in differentiating a limited number of colors, for perhaps years, and then lamentably fail, in chromatic detection, at an important moment, at a sacrifice of lives and property. Transportation companies, especially railroads, run with great regularity, enabling an engineer to usually correctly anticipate expected signals, at specified times and places, and causing him to slacken his speed for purposes of investigation when his anticipations are not realized. It must be remembered that all overrun signals do not necessarily imply accidents, and an engineer might misunderstand many signals without getting into trouble. Engineers, pilots, etc., are not alone in observing signals, being always assisted by firemen, officers, sailors, etc., who are much depended on for signal interpretation where self-consciousness of defective form or color vision obtains. Such employees habitually exercise all the tact, diplomacy and intelligence at their command, in concealing their shortcomings, and frequently acquire wonderful success in so doing. Color amblyopics frequently utilize some luminous object of known character, such as the moon, or a star, with which to compare the chromatic intensity of exposed signals, a procedure productive of much embarrassment and additional danger in cloudy and foggy nights.

Three colors are principally used as signals, viz., white, green and red, the first of which may be practically eliminated from this subject, as being almost invariably discernible by any one possessing even a fractional amount of color vision. Blue should also be mentioned as being the signal that a car is repairing on the track.

In railroad service, white indicates "safety," green "caution," and red "danger;" in maritime service red indicates the port side of a vessel, green the starboard side, while a white light hangs to the mast head, thus indicating her position and course. Unfortunately green and red are the colors most bewildering to the color amblyopic, but long practice and observation enables him to distinguish different degrees of *intensities* between these colors, which he has learned to call green and red, but which to us would possess entirely different significance could we see them through *their* eyes and *our* chromatic interpretation. The color amblyopic for red sees red as a color darker than red, perhaps brown, and sees green as a color lighter than green, perhaps gray. He may therefore see a difference in brilliancy between the two colors which he calls green and red, having heard them so denominated. In this way accidents are averted and he is supposed to have good color acuity because he *calls* them correctly.

It has been said that employees frequently express themselves as willing to be examined by signals as they are used in every-day life, but are unwilling to submit to the worsted and other tests in the office. They claim that such tests are unfair and needlessly technical, and that if they can name colors and objects on the track and water, this should be sufficient. Experience will prove, however, that such objections usually emanate from those feeling themselves insecure in discriminating colors and objects, or that the matter is championed by some union or brotherhood, as a policy of mutual protection. Corporations also advance the same argument, not wishing to be annoyed by internal dissensions with their employees, and being desirous of avoiding detail and expense. Many ultrapractical and unbiased men advance identical views and, indeed, the argument that the men should be practically tested with their tools, signals, habitual surroundings, etc., has a ring of common sense to it that appeals to many who should be better informed. The test proposed by such ultrapractical men and others is that men should be examined on the track or water, at usual distances, and just as if they were engaged in their ordinary vocations. This is no more fair and accurate in color tests than to give up examining vision by accepted printed types, in the office, and substituting therefor tests out of doors, by asking men if they can see a sign, a signal, a man, etc. Such tests would be ridiculed, for reasons unnecessary to mention, and it may be said that testing for colors in this loose and indefinite fashion is open to the same objections. The labor of such examinations to all parties concerned renders them impractical and inexpedient, when we consider that they must be made by day and by night, in both fair and inclement weather, under all possible circumstances, and will necessarily be subjected to many interruptions and much unfairness. Atmospheric conditions, such as clear, foggy, misty, rainy, snowy weather, escaping steam, the quality and character of the illuminant, the time of day, the thickness, quality and cleanliness of the lamp glass, the cleanliness and character of flags, etc., all have much influence on chromatic interpretations, even by those possessing good color appreciation, and these elements must be considered in arranging for so-called practical outside tests. It should not be forgotten that owing to the elimination of white from these tests, the matter becomes narrowed down to a discrimination between green and red, which the color amblyopic has by experience, tact, and color intensity appreciation, learned to do quite successfully under varying conditions, even though possessing no true appreciation of chromatic identity. These weapons he utilizes in such tests, and as only two colors are intrinsically concerned in his examination, he may, especially if he is a skilled guesser, emerge triumphant from an unscientific test, through which a defective man may win, or a safe man be condemned. The object of color examinations is *not* to ascertain whether an individual can *usually* discriminate between colors, but whether he can *always* and *invariably* do so, a fact which can only be definitely settled, with our present knowledge, by the comparing tests of Holmgren and others. It is an unfortunate conincidence that the very colors principally used as signals should be the ones implicated in color amblyopia. For this reason it has been suggested that other methods of signalling be used, such as forms, range lights on steamers, etc., and these suggestions are being carried out quite successfully on many roads.

It has also been suggested that as blue amblyopia is of very infrequent occurrence, blue and white should be made to occupy the important positions in signalling, now held by green and red. This has been objected to, as white already occupies a position of importance, and blue has not enough intensity and chromatic stability to make it a useful and important signal color. All things considered then, the methods now in use are the best at present at our command, but it is excessively important that those whose duty it is to promptly and invariably interpret these colors should be able to do so promptly and unquestionably.

There are perhaps forty different tests for chromatic integrity, but after all the merits and demerits of the various methods have been discussed, it is quite generally conceded that the worsted test of Holmgren is the most accurate, simple, and reliable, although other tests are worthy of mention.

I will not undertake to recite the different steps of Holmgren's test, as they may be found in almost any reliable text-book on ophthalmology, but will make a few general remarks on the subject, important to be remembered.

The method consists in *comparing* colors by the use of some 150 shades of Berlin worsteds. Worsteds were selected as the agents of comparison for several reasons, viz.: They can be readily procured in all shades, can be used at once without preparation, are cheap, are equally colored, have no gloss and are not glaring, are easily packed, transported and handled, and are always ready for use.

As worsteds fade on exposure, it is better to have them renewed frequently, and they should be selected properly and accurately. For this reason Dr. Jeffries of Boston has made arrangements with an optician of Boston, to personally inspect wools which they sell at $2.50 a set. Indeed, in some European countries they go so far as to strongly recommend that wools used for these tests should be certified to—before selling and using—by an authorized committee, who shall produce standard colors derived from scientific and analytic spectral examinations. It is well, therefore, to avoid exposing the worsteds to the light as much as possible, keeping them in a box in a dark room when not in use.

Berger, Cohn and others believe that the application of external warmth to the eyes, temporarily relieves color amblyopia, which would lead us to be cautious in allowing men to protractedly cover their eyes with their hands, just previous to the test.

One eye should be examined at a time, as monocular color amblyopia is not impossible, and as one eye is sometimes disabled on a trip, by cinders, inflammation, etc., it is necessary for an employee to possess good chromatic perception in both eyes.

Those who test for color amblyopia should be sure of their own color sense.

Examinations should be universally made at least once in three years, once a year in those who excessively use tobacco or liquor, and immediately after accidents, severe illnesses, and when inattention to signals, or other occurrences tends to cast suspicion on the responsibility, vision, hearing or color perception of an employee. Examinations should include all those engaged in the active operation of means of transportation, such as station agents, telegraph operators, station baggagemen, engineers, firemen, hostlers, conductors, brakemen, train baggagemen, train porters, yard masters, switchmen, towermen, switch tenders, crossing flagmen, bridge foremen, section foremen, pilots, lighthouse keepers, street-car drivers, conductors, automobile drivers, and every employee of any kind of boat.

The object of the test should always be kept in mind, which is the *comparing* of the different worsteds with light green, purple and red test-skeins. The *names* of colors should be avoided, and it should not be forgotten that if an applicant fails to properly match the light green test-skein, he is color amblyopic, and that the matching of the purple and red skeins is simply of a confirmatory nature, and for the purpose of designating more accurately the *variety* of the defect. The light shade of green has been selected advisedly, and the test should not be expected to include all green gradations. The applicant *should match the sample* which will compel him to hunt for *light* shades of green, and lead him into a chromatic territory where color amblyopia will be exposed, a result which would not be accomplished by association with *dark* shades of green. An applicant easily loses sight of the exact nature of the test, and imagines that as the test is green, he is at liberty to select any green shade. He also frequently fails to keep in mind the original light green skein, and matches the last selected color, thus gradually and imperceptibly working into the darker shades, until the test becomes worthless. Should the applicant manifest a disposition to ignore or avoid the distinct design of the test, the colors should be remixed, and the examination begun afresh. He may even be instructed just how to proceed, by actual demonstration, as no harm is done thereby, for, if he is color amblyopic, he will ultimately fail in assorting the skeins, notwithstanding frequent instruction.

Color amblyopics do not invariably select improper colors; they frequently choose many correct skeins, but mix with them a proportion of confusion colors, thus establishing their defect. They usually adopt one of two courses: They may seek to conceal their defect by boldly and rapidly selecting skeins, thus usually quickly disclosing their infirmity; or they may approach the test slowly and guardedly, with many excuses, as to not being very well qualified in the selection of colors, etc. They show great hesitation in choosing the skeins, hold and twist them in their hands—especially the confusion colors—and then frequently throw them back into the pile and try again. They complain that they can not find worsteds exactly matching the skein, and exhibit much surprise when informed that the only requirement is to match the test skein as closely as possible. Condemnation should follow prolonged hesitation in doing so, as indicating a weak chromatic perception, quite as dangerous, if not more so, than pronounced color amblyopia accompanied with self-consciousness of the defect and skill in its concealment. Hesitating applicants are sometimes extremely troublesome, consuming much time and patience in examination, in order to at least satisfy the individual as to his fair and impartial treatment, and thus dissipate dissension amongst employees. Such men are prone to complain of a temporary debilitated physical condition, or weak eyes incident to long runs, or night work, under which circumstances re-examinations may occur, under confessedly good environments, as these men should, if possible, receive satisfaction, and be given every opportunity of proving the possession of good chromatic perception, as the support of a family and future prospects usually depend on the surgeon's verdict. Individual circumstances should, however, be entirely merged into the more important subject of public life and property, and no sentiment of pity should produce an impairment of judgment. Patience should be exercised in such examinations, and consultations with other surgeons and exhibitions of chromatic defects before companies or officials may be necessary to inspire confidence and respect in the examiner and resignation to his opinion.

One great objection to Holmgren's test is its apparent simplicity and ease of manipulation, which conveys to the mind of the laity the impression that it can be undertaken with assurance by any medical man or even by non-professional employees, but it should be remembered that the test is not merely automatic. It *may* be frequently accomplished by uneducated laymen, but instances continually arise, taxing even an accomplished ophthalmologist to properly and equitably decide. It is often necessary to use the perimeter, test lenses, the ophthalmoscope, etc., to decide on scotoma, refraction, and many other points where color and form vision is tested, and to be a good otologist where a discrimination as to deafness is considered. Good surgeons may be and frequently are safe men to employ for eye and ear examinations, but I unhesitatingly assert that ophthalmic and aural surgeons are *better* qualified to do this work, and especially do I earnestly protest against entrusting such examinations to educated and uneducated laymen, who certainly can not be depended on to render a fair and skillful opinion either for or against the employment of men from a physical standpoint, and consequently must be quite as likely to condemn a sound as an unsound applicant. Brotherhood surgeons should be ineligible for such examinations, as the retention of their positions is optional with the organization, who might discharge them if they condemned many members, and they might not possess sufficient moral courage to withstand such financial pressure. The integrity of most surgeons is unimpeachable, but dishonesty may occur, and examining surgeons should be retained and paid by transportation companies, or at least the selection of the examining surgeon should be dictated by the company even if the men pay for such examinations themselves.

Tests for color and hearing may be witnessed by others, as harm can not accrue, if quiet and order is maintained, but tests for form vision should be made privately, as familiarity with the test-types is undesirable in those subsequently to be examined.

Ambition is inseparable from work, and employees in all avenues of labor hope to gradually advance from one position to another. If physical and incurable defects exist, rendering the ultimate fulfilment of these aims impossible, common humanity would indicate the advisability of an early acquaintance with such misfortunes, and the planning of some life work not inconsistent with incurable infirmities. For this reason physical examinations, incident to the subject under discussion, should be made at the inception of an applicant's career, and not delayed until the culmination of hopes and aspirations are about to be realized—as in the case of a fireman, about to become an engineer—when the development of the unfortunate truth dashes the cup of happiness from his lips.

Requirements for color and form vision and hearing on the water, where ships of all countries meet and pass, should be settled by international agreement, as maritime safety in this particular can obviously only be acquired by unanimous consent.

Dr. Jeffries says: "Color-blindness may be regarded by some as a curiosity, but if the color-blind individual be the engineer of a train running at the rate of a mile a minute, carrying passengers and freight, whose safely is dependent upon his knowing whether a switch is open or shut, or a draw up or down, or can instantly distinguish between a red and green light, then the communities' attention might possibly be aroused; or if another color-blind individual is a pilot of a steamer and the safety of lives and property is dependent upon his eye-sight, or the ability to distinguish between red and green, and a consequent knowledge which way the steamer is moving, then the mere curiosity part of color-blindness sinks into insignificance in comparison with the danger arising from it." Or as he again says: "Ask any superior officer of a road, if he would be willing to assume the responsibility when only colored signals alone were permitted, and a feeble light meant danger, a moderate light, attention or action, and a strong light-red color, clear. If he says no, tell him that these are the conditions under which every color-blind engineer is performing his duties. The absurdity is evident at once." "Ask the president or high official of a railroad if he would like to travel on a road where he knew that the engineer had poor vision or hearing or was color-blind. His answer should be indicative of his actions toward the necessity of a systematic examination of men holding such important positions."

Nov. 15, 1875, near Lagerlunda in Sweden occurred a terrible railroad accident, which was proven to be due to color amblyopia. This inspired Holmgren to make his investigations, which were the first noteworthy systematic and fruitful investigations made on this important subject. Since then the matter has been taken up in various parts of the world, with indifferent results. Sweden, Holland and England have taken quite an active part in the matter, as have also the legislatures in Alabama, Connecticut, Ohio and Massachusetts. Drs. Jeffries, Thomson and Oliver and others have worked energetically for good laws, but thus far their efforts have not been crowned with the success which they deserve.

Dr. Thomson states that there are in this country 180,955 miles of railroads giving employment to about 1,000,000 men. He corresponded with the managers of 129,970 miles of road and found that 54,465 miles used some system of color tests, 29,428 miles took *no* precautions, and 46,077 miles ignored his letters, which certainly left them well open to suspicion. It will thus be seen that many thousand miles of railroads are operated under a system which takes no precaution to ascertain the ocular condition of *even their locomotive engineers.* Assuming that even 3 per cent. of these men are color amblyopic, and that a still larger percentage have defective form vision and aural defects, it can be readily seen under what danger the public and its property, to say nothing of employees themselves, who are usually the first to suffer, are being daily transported, and these figures take no account of street railways and maritime transportation. These facts are appalling, and must be accounted for by unpardonable incredulity, indifference or impecuniosity on the part of transportation companies, or the intimate relationship frequently existing between some railroads and some legislatures, either of which should be overcome by united medical effort championed by some representative organization such as the American Medical Association. A united professional effort can accomplish much, as evidenced by the State of Kentucky, where the advertising quack is refused a spot in which to transact business, and the medical profession should insist that transportation employees be able to pass a reasonable and satisfactory examination by properly authorized and equipped medical men. If ophthalmologists and otologists desire to further the culmination of such ends, they must perform their part by simplifying their methods of examination, as far as is compatible with efficiency, and by being willing to examine large bodies of men, under contract, for a small fee. Perhaps later, when the laity is brought to a higher standard, more accurate examinations and higher fees will be possible.

I believe that under such circumstances, and under proper influence, transportation companies, and through them legislatures and Congress, may be brought to a realizing sense of their honest obligations to the public. I contend that such examinations will prove not only a desirable but an economic measure for transportation companies, and their managers will then, for a small expense, operate their companies under much less risk and danger of frequent litigation for damages, personal and otherwise. The consequences of one accident might easily pay for the eye and ear examinations of an entire system, and it is certainly true that judicial leniency will always be shown to transportation companies, able to show certificates of ocular and aural health of employees, where accidents have occurred possibly traceable to defects of these organs of special sense.

What has been said concerning the necessity for the possession of good chromatic perception by all employees actively engaged in actual transportation service, including street-cars and automobile drivers, applies also to the necessity for the possession of good form vision and hearing. The former should be tested by accepted test-types, and of these Snellen's are preferable, because reliable, and universally accepted as a standard. The latter should be tested by a good-sized watch, and by the voice test in a quiet room. The statement of employees as to their visual and hearing capacity should be absolutely disregarded, and reliance only placed on scientific and accurate means of investigation.

It will be necessary to adopt two standards, one for new and another for old employees. New applicants for work should possess normal eyes and ears, and be subject to no progressive ocular or aural disease, such as trachoma, cataract, neuritis, etc. Vision should equal 20/20 in both eyes, color perception should be perfect, and the low-spoken voice should be heard by each ear, at twenty feet in a quiet room, and a good-sized watch should be heard at three feet under similar circumstances. Temporary diseases need not debar an applicant, but he should not be accepted until such conditions have subsided, and normal conditions are reestablished.

Old employees should be treated with all possible consideration, for reasons which must be manifest to any one thoughtfully approaching this subject, therefore certain concessions should be made to them, that are compatible with safe service. Color vision should be perfect and hearing should be good. They should not have any serious progressive eye or ear disease. Considerable latitude may be allowed in the matter of form vision. Full 20/30 vision should be required in one eye, 20/50 in the other, which is certainly a liberal concession. Old employees should be allowed and required to wear glasses when on duty, if lenses are necessary to produce the requisite form vision, but the expense of such refraction work should not be borne by the company, and the glasses should be inspected by the company surgeon, although employees should not be *compelled* to *consult* him for such professional service.

92 State Street.

Professor Terrier of Paris leaves the Hôpital Bichat this year, as his term of hospital service expires (1883-1899), and assumes charge of the important surgical clinic at the Pitié vacated by Berger, who has recently been appointed professor of operative medicine. A souvenir medal was presented to Terrier as he took leave by his students at Bichat.

A PRELIMINARY NOTE ON ANTIPNEUMOCOCCUS SERUM.

BY JOSEPH McFARLAND, M.D.
AND
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Knowledge of pneumococcus infection and immunity, and the evolution of "antipneumococcus serum" have been of slow progress and along paths beset with many difficulties.

In 1880 Sternberg[1] discovered in saliva a diplococcus which, when inoculated into rabbits, produced fatal septicemia. To this micro-organism he subsequently—1885—gave the name "micrococcus Pasteuri."

Pasteur[2] subsequently rediscovered the same micro-organism, but neither he nor Sternberg seem to have recognized its importance in connection with croupous pneumonia. A. Fraenkel[3] observed the almost constant occurrence of the diplococci in large numbers in the rusty sputum of pneumonia, and cultivated it from several cases of pneumonia empyema, and one of meningitis. These and later observations[4] led Fraenkel to declare the diplococcus to be the pneumococcus, the cause of croupous pneumonia. Weichselbaum and Netter fully established his claims, and ever since the micro-organism has been called the "pneumococcus of Fraenkel and Weichselbaum."

The natural distribution of the pneumococcus has not been thoroughly worked out, and the micro-organism is best known to us as a resident of the mouth and respiratory tract in which it is found in greatest numbers in cases of fibrinous inflammation.

As was pointed out above, Sternberg and Pasteur first found the pneumococcus in saliva, Fraenkel in sputum. Its relation to the infectious processes succeeding pneumonia has been studied by many; thus Netter[5] found it in the serofibrinous exudate of pneumonic pleuritis; Zaufal[6], Netter,[7] Weichselbaum,[8] Bordoni-Uffreduzzi,[9] and others in the middle ear and mastoid process; Weichselbaum[10] first pointed out its relation to endocarditis and to the joint infections and periosteum. These observations have been repeatedly substantiated by large numbers of observations made by many competent students, and to the inflammatory conditions now known to be the result of the activity of the pneumococcus, have gradually been added parotitis, thyroiditis, orchitis, pharyngitis, conjunctivitis, meningitis, pleuritis, peritonitis, pericarditis, nephritic abscesses and others.

Netter[7] has given an excellent synopsis of the pneumococcus-infection as follows: Adults: pneumonia, 65.95 per cent.; bronchopneumonia—capillary bronchitis—15.85; meningitis, 13; empyema, 8.53; otitis, 2.44; endocarditis, 1.22, and hepatic abscess 1.22 per cent. Children: otitis media, 29 cases; bronchopneumonia, 12; meningitis, 2; pneumonia, pleuritis and pericarditis, each 1.

The etiologic rôle of the pneumococcus in pneumonia has been doubted by some because other micro-organisms are not infrequently found together with and occasionally replacing it. Of these the important are Friedländer's bacillus, the streptococcus pyogenes, the staphylococcus pyogenes aureus, rarely the colon bacillus, and commonly, since the great epidemic, the influenza bacillus.

It must be remembered, however, that the pneumococcus is supposed to be specific for the croupous form of pneumonia, and the observations made to determine its presence are very convincing, for Netter,[7] in 82 autopsies, found the pneumococcus 82 times. Klemperer punctured pneumonic lungs 21 times and secured the pneumococcus 21 times; Weichselbaum obtained it in 94 out of 129 cases examined; Wolf in 66 out of 70, and Pierce[11] in 110 out of 121 cases. Weismayr[12] collected 39 cases of croupous pneumonia in which the pneumococcus was present in 34; of the remaining, 2 showed a mixed infection with the streptococcus and staphylococcus.

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Netter found that, by inoculation into rabbits and mice, he was able to demonstrate the presence of the pneumococcus in the saliva in one-fifth of normal individuals who had not had pneumonia. In subjects suffering from pneumonia it was present in 82 per cent. of the cases. In cases having had pneumonia it was demonstrated in 60 per cent. in the first three months, in 89 per cent. in the second, third and fourth quarters of the year. During five years following the disease it could be demonstrated in the saliva in 80 per cent. of the cases, and after the fifth year in 67 per cent. The saliva has been found by him to be virulent from pneumonia, as long as twenty years after an attack of the disease, and the presence of virulent pneumococci there may explain relapses.

From the evidence before us at the present time, it seems safe to say that about 75 per cent. of the cases of true croupous pneumonia are caused by the pneumococcus alone, about 15 per cent. by that in combination with the influenza bacillus, streptococcus, staphylococcus, colon bacillus, etc., and the remaining 10 per cent.—a very liberal allowance—by various bacteria other than the pneumococcus.

The pneumococcus is present in greatest numbers in the early rusty sputum of pneumonia, and decreases in numbers in the later stages of the disease, when many of the bacteria are enclosed in leucocytes, and show by their staining and morphology that they are dead. They can be found throughout the whole pneumonic process, and as shown above may remain in the sputum and saliva for many years. The pneumococcus also occurs in the pus in such of the post-pneumonic inflammations as have already been mentioned, and Netter has shown us that in the great majority of fatal cases of pneumonia, the pneumococcus can be cultivated from the blood within the cavities of the heart.

Kohn[13] made a series of bacteriologic studies of the blood taken from the veins of the arm in croupous pneumonia and found the pneumococcus present in 21.8 per cent. The gravity of the case seems to bear a direct relation to its presence in the blood, for 18 patients who gave negative results recovered, 7 in whom the pneumococcus was found, died, while of 5 others in whom none were found in the blood, 2 died from an accidental streptococcus empyema. Only two patients, of all he studied, recovered after pneumococci were found in the blood, and these only after general pyemia and metastatic abscesses.

Animals vary in their susceptibility to pneumococcus infection. The pioneer experimenters first noted a general septicemia in the rabbit and, indeed, in rabbits and white mice the infection nearly always assumes that form, terminating fatally in from one to three days. In the cadavers of these animals there is comparatively little to see except that at the point of subcutaneous inoculation there is a large hemorrhagico-fibrinous exudate. The spleen may or may not be enlarged, and when enlarged may be hard and firm or soft. A little fluid may be present in the serous cavities. Frequently purulent pleurisy or pericarditis is found. The blood is usually firmly coagulated.

Birds, especially chickens and pigeons, are said to be immune; cats, dogs and sheep vary in their susceptibility, usually requiring intraperitoneal or intravenous injections to produce much effect. Guinea-pigs are not very susceptible; the young animals are probably more so than the full-grown. White rats usually succumb to large doses of virulent culture.

Too much attention must not be paid to the animal susceptibility, however, as it varies greatly with the virulence of the particular pneumococcus, which above all others is a micro-organism subject to natural and artificial variations in its virulence. Welch[14] found the most virulent cocci in freshly hepatized human lungs. The virulence rapidly declines on artificial culture-media, so that after a few generations the organism becomes harmless. Continued passage through animals may bring back the virulence of the attenuated pneumococcus, or intensify the strength of a feebly virulent one. Monti[15] and Pane[16] have increased its virulence by symbiosis with the proteus vulgaris and anthrax bacillus.

Pneumonia—i. e. pulmonitis—never follows subcutaneous, intravenous, or intraperitoneal infection with the pneumococcus. Injection through the thoracic wall into the lung was tried by Talamon, and a rabbit thus treated died of a fatal croupous pneumonia. Gameleia performed similar experiments on dogs and succeeded in producing a disease resembling croupous pneumonia of man and characterized by stages of red and gray hepatization and resolution. These cases recovered in about fifteen days. Experimental pneumonia was produced in the same manner in sheep, but was fatal.

From the facts thus stated we can establish: 1. The almost constant presence in croupous pneumonia, and its complications and sequelæ, of the pneumococcus. 2. The production of lesions similar to some of those of croupous pneumonia, and under certain conditions identical with those by inoculation into animals.

The pneumococcus and its morphology and culture are so well known that it would be an assumption to give them space in a paper whose space is limited.

The experimental production of immunity from pneumonia and the pneumococcus was begun by the use of filtered cultures, by F. and G. Klemperer.[17] It was found that when animals were injected with sterile filtered cultures they developed an immunity that lasted for about six months. They were also able to demonstrate in the blood the presence of a protective body which they called antipneumotoxin, which protected other animals from fatal pneumococcus infection. Their experiments include the prevention and cure of pneumococcus infection in animals, and the treatment of pneumonia in the human subject by the injection of blood-serum from immune animals. The experimental production of immunity to the pneumococcus is not at all difficult. Sternberg[18] found that attentuated cultures protected against more virulent ones; Klemperer, that filtered cultures afforded immunity as just described; Emmerich,[19] that infusions of the tissues of animals dead of pneumococcic infections were potent to immunize others. Belfanti[20] immunized animals by injecting into the ear vein 10 c. c. of a mixture of viscid sputa and distilled water kept on ice for twenty-four hours and subsequently passed through a Chamberland filter; Foa and Scabia,[21] by the use of a glycerin extract from the blood of an infected rabbit.

It is now known that immunity can be secured by employment of live virulent germs, live attenuated germs, cultures killed by heat or by antiseptics, filtered cultures containing the products of metabolism, and the blood and juices of immunized and infected animals; the former probably because of antitoxic, anti-infectious or enzymic principles contained in the tissues.

The first suggestions of an antipneumotoxin came from the Klemperers, who claim to have found curative effects produced by the injection of the serum of the animals they immunized. The therapeutic value of these serums seem to have been very slight, for 8 c.c. of the serum were required to save the life of an infected rabbit, and it is little wonder that when an attempt was made to use the serum in human medicine, with a dosage of only 4 to 6 c.c., Mosney and others failed to experience the same good effects that the Klemperers claimed. Emmerich urges, in explanation of these failures, that the animals from which serums were received were not sufficiently immunized.

Hughes and Carter[22] probably received their inspirations from the Klemperers. They argued that the crisis in human pneumonia probably resulted from the presence of antitoxin in the blood which, if in excess, might be useful as a curative. In their experiments the serum of blood secured from a patient just past the crisis was injected into patients suffering from the disease. The results were not satisfactory and the treatment seemed to be dangerous.

Weisbecker[23] also treated 17 patients with pneumonia by serum taken from convalescents, and claims excellent results, with only 2 fatalities from complications. Huber and Blumenthal[24] tried the same thing in a number of infectious diseases, especially pneumonia, and 2 deaths occurred out of 14 patients noted.

The most recent and most interesting works on antipneumococcus serum are those of Washbourne,[25] DeRenzi[26] and Pane,[27] that of the first named being most successful. Washbourne selected a pony and for a period of five months administered varying doses of pneumococci, at first killed by heat, then small quantities of virulent cultures, and finally large quantities of very virulent cultures. After a period, during which the animal was allowed to stand in order that the micro-organisms might disappear from the blood, the pony was bled. It was found that the serum was potent to protect a rabbit against ten times the fatal dose of virulent pneumococci in doses of .03 c.c. According to a nomenclature of strength adopted by him such a serum contains thirty-three units per cubic centimeter. Pane was not so successful, and of the serum which he produced, about 1 c.c. was necessary to protect a rabbit.

When live pneumococci are brought into contact with the antipneumococcus serums, it is observed that agglutinations form and the contour of the micro-organisms becomes less distinct than normal. In some cases they may be dissolved, so that the reaction between the serum and bacterium resembles the well-known Widal phenomena.

The fact intimates, as would be expected, that the serums of Washbourne and Pane belong to a class known as anti-infectious rather than antitoxic serums, and exert a direct destructive action on the bacteria.

The work and the results of the more recent writers differ from that of the Klemperers, in that the latters' serums being made by the use of filtered cultures—toxin—was really an antitoxic serum, while the newer preparations are made by immunizing the animal to live virulent cultures and are anti-infectious.

The pneumococcus produces very little separable toxin, and the symptoms of the disease are more the result of the local pulmonary distress than of systemic involvement. The pneumococcus, however, is a micro-organism which does not remain local in the lung, but is apt to enter the blood-stream with resulting metastasis and probable septicemia. For such a condition an anti-infectious serum is distinctly indicated, while an antitoxic serum would possibly be less desirable unless exceptionally active. According to the studies of Pane and Isaeff, the antipneumococcus serum exerts no effect on the separable toxins of the pneumococcus, being limited in its action to the destruction and solution of the bacteria themselves.

The direction which our experiments have taken has coincided with that of Washbourne and Pane. Because of its large size and the considerable quantity of blood which it furnished, the horse was the animal selected. After establishing its soundness and health by the usual tests, a course of gradually increasing doses of the pneumococci was carried out, the resistance of the animal being so increased that 100 c.c. of a very virulent culture could be tolerated. This dose was repeated a number of times at intervals of about a week, and when the desired condition was attained and the possibility of micro-organisms remaining in the blood had disappeared, the horse was bled from the jugular vein, the serum separated and preserved with trikresol. This serum was found on careful testing, to be about the same strength as that secured by Pane, and not so strong as that of Washbourne. It is hoped that the serum will be of use in the therapeusis of croupous pneumonia, exerting its effect on the pneumococci engaged in the pneumococcic processes in the lung, and that the immediate effects of its use will be the reduction of temperature, strengthening of the pulse, production of an early crisis, and above all the prevention of the frequent accidental metastatic inflammations so common in the disease.

The result of the use of the serum in human medicine we hope to make the subject of a future paper.

In the various septic processes caused by the pneumococcus, such as meningitis, purulent pericarditis or pleurisy, periostitis, the rare cases of diplococcus angina, the offer of a specific treatment would come as a very welcome gift.

In the few therapeutic observations that have been made by other writers, varying success is reported, but enough cases have been treated to give a very hopeful outlook for the future of serum therapy in pneumonia. The most important observations made are as follows:

DeRenzi,[28] in 1895 and 1896, studied, comparatively, 13 cases of pneumonia treated without the serum, with 3—23 per cent.—deaths, and 14 cases treated with the serum, with 2—14 per cent.—deaths. In the latter series, one was *in articulo mortis* when treatment was begun, and the other had renal and arterial disease apart from the pneumonia.

Cooke[29] treated two patients, Spurnell[30] and Fanoni[31] one each with antipneumococcus serum from different sources, with good effect and ultimate recovery.

Pane[32] treated 9 cases with an average of 20 c. c. of antipneumococcus serum each day. All of these recovered except one, in which the treatment was begun late and an insufficient quantity of the serum administered.

Washbourne[33] treated 6 patients, some of them very severe, with his serum, and had excellent results, all of his cases recovering.

BIBLIOGRAPHY.

1. Am. Jour. Med. Sci., July, 1881.
2. Compt. Rendu, xcii, p. 159.
3. Deutsche med. Woch., 1885, p. 31.
4. Zeitsch. f. Hyg., 1896, x and xi.
5. Bull. et mem. de la Soc. Med. d. Hôp. de Paris, 1889, 3d Series, vi.
6. Prager Med. Woch., 1888 and 1889.
7. Compt. Rendu, 1889.
8. Wiener klin. Woch., 1888.
9. Centralbl. f. Bakt., etc., vii, 90.
10. Wiener klin. Woch., 1888, 35 and 36.
11. Boston Med. and Surg. Reporter, Dec. 2, 1897.
12. Zeitsch. f. klin. Med., xxxii.
13. Berliner klin. Woch., Dec. 14, 1896.
14. Baumgarten's Jahresberichte, 1891.
15 Atti della Acad. med. de Roma, ii, 1889, 7.
16. Riforma Med., 1894.
17. Ber iner klin. Woch., 1891, Nos. 34 and 35.
18. Studies from the Biologic Laboratory of Johns Hopkins, Balt., 1882.
19. Münchener med. Woch., 1891, No. 32.
20. Riforma Med., 1892, No. 126
21. Gaz. med. di Torino, 1892, p. 421.
22. Therapeutic Gaz., Oct. 15. 1892.
23. Münchener med. Woch., Feb. 15 and 22, 1898.
24. Berliner klin. Woch., August 2, 1897.
25. British Med Jour , Feb. 27, 1897. p. 510.
26. Il Policlin., Oct. 31, 1896 (Supplement).
27. Centralbl f. Bakt., xxi, 17 and 18, p. 664, May 29, 1897; Gaz. degli Ospe. e delle Clinici, Jan. 30, 1898.
28. Il Policlin., Oct. 31, 1896 (Supplement).
29. British Med. Jour., May 22, 1897.
30. British Med. Jour., April 17, 1897.
31. N. Y. Med. Jour., May 7, 1898.
32. Gaz. degli Ospe. e delle Clin., Jan. 30, 1898.
33. British. Med. Jour., Dec. 25, 1897.

Therapeutics.

Local Treatment of Diphtheria with Scarlet Fever.

The *Semaine Med.* of November 11 quotes a Polish confrère, Malinowsky, that he has found the following formula extremely satisfactory for spraying the throat and nasal cavities for ten to twenty seconds every two hours in scarlet-fever diphtheria: creosote and thymol, āā, .50 gm.; camphor and turpentin, āā, 25 gm. The false membranes become detached in twenty four hours. General treatment is continued as usual.

Antidiphtheria Serum in Whooping Cough.

Gilbert writes to the *Rev. Med. Suisse Romande* that the success of antidiphtheria serum, in some cases of whooping-cough coinciding with diphtheria, induced him to try it for the former alone. Nine children with severe whooping-cough were thus treated and the effect was prompt and decided. The disease was much attenuated and shortened. The coughing spells decreased from twenty to thirty in the twenty-four hours to three or four, and in ten days the specific cough had vanished. Ten cubic centimeters were injected.

Treatment of Ulcer of the Stomach by Absolute Rest.

To secure good results in the treatment of gastric ulcer, the vomiting must be stopped; the pain must be relieved; the hyperchlorhydria must be cured or made to temporarily disappear, so that the ulcer may proceed to cicatrization.

To secure these results absolute physiologic rest must be enforced, which will prevent gastric fermentation and putrefaction. The muscular fibers of the stomach being placed at rest, there is at first diminution soon followed by a suppression of gastric secretion.

Under the influence of complete rest the dilatation of the stomach lessens and the walls contract and resume their vigor. Observation has proved that complete suspension of gastric feeding is possible and that patients can endure without inconvenience from fifteen to twenty days, if rectal feeding is resorted to.

Peptonized enemata prepared according to the following formula may be used:

Milk ....ʒliii
Yolk of egg ii
Peptone ....℈xii xvi
Tinct. opium....................................m. x

Not more than ℥viii should be given at one feeding and it should be administered luke-warm.

A half hour or an hour previous to giving a rectal feeding, an enema of ℥viii of cold water should be given to the patient. Four enemata should be given daily, which is sufficient nourishment for a patient confined to bed.

It is an interesting fact that intestinal absorption is better, the less the stomach functionates. The duration of the treatment will depend on the gravity of the symptoms. The resumption of buccal feeding must be slow, and progressive. The cessation of rectal feeding must also be gradual.

Very Extensive Burn in a Child Treated by Large Saline Injections.

Patel, in the *Lyon Medical*, reports the case of a child, aged 2½ years, who had a burn of the second degree, involving more or less, both arms and legs, face and trunk. The general condition was bad, the pulse was imperceptible, and the child unconscious. Caffein, alcohol, bouillon, and milk were given. On the third day 250 c.c. of saline solution were injected, and on the fourth day the child became for the first time conscious. Between the fourth and twenty-second days six similar injections were given. Until the twentieth day he improved in every respect, but on the twenty-second his general condition was not so favorable, and on the twenty-fourth day he died. At the necrospsy the lungs alone presented appreciable lesion—diffuse catarrhal pneumonia. The great improvement after the first four injections, and the survival of the child for nearly a month seemed to be due to the serum. After reviewing the work done to elucidate the cause of death in extensive burns, the writer comes to the conclusion that it is due to an auto-intoxication. Consequently, once the period of shock is passed, the treatment should be directed to freeing the system of the circulating toxin, and for this saline injections answer well. Due attention should also be paid to the emunctories, so as to still further favor the elimination of toxins.

Prescriptions for Tonsillitis.

R. Salol ....gr. xxx
Olei amygdal. expressed....................................ʒi
Syrupi ....ʒvii
Aquæ ....ʒxix
M. Sig. To be taken in 3 doses during the day.
—*Squibbs Ephemeris.*

R. Pulv. opii deod ....gr. ii
Tinct. verat. viridi....................................m. viii
Hydrarg. chloridi mitis....................................gr. ii
Olei anisi....................................m. i
Sacchari lactis, q. s.
M. Make into 20 tablets. Sig. One every hour for adults.
—*Newcomb: Medical Record.*

ACUTE FOLLICULAR TONSILLITIS.

R. Guaiacol ....ʒii
Olei amygdal. expressi....................................ʒii

Apply on the inflamed tonsil with a throat brush. Give internally.

R. Potassii bromidi....................................℈iv
Sodii salicylatis ....ʒi
Tinct. opii deod....................................ʒi
Cascara cordial q. s....................................℥i
M. Sig. Teaspoonful every four hours in water.
—*Ingals: Chicago Clin. Review.*

FOLLICULAR TONSILLITIS

R. Acidi trichloracetici ....gr. iii
Sodii carbonatis....................................gr. vii
Potassii iodidi....................................gr. xv
Glycerini ....ʒiii
Aquæ dest ....ʒv
M. Sig. After incising the tonsils paint with the above.
—*Gaz. deg. Osp. e del Clin.*

ACUTE TONSILLITIS

R. Tinct. aconiti....................................m. viii
Liq. ammon. citratis....................................ʒii
Syrupi auranti....................................ʒiss
Aquæ dest. q. s. ad ....℥ii
M. Sig. Two teaspoonfuls every three hours for a child of five years. —*Ashby: Medical News.*

R. Sodii salicylatis ....ʒiv
Syrupi acaciæ ....ʒiv
Aquæ cinnamomi ....ʒiv
M. Sig. A dessertspoonful every two or three hours.
—*Columbus Med. Jour.*

An Ointment for Sciatica.

R. Olei terebinthinæ
Olei gelsemii, āā........................ʒv
Ceræ albæ........................ʒii
Unguenti simp........................ʒxl
M. Sig. To be applied to the painful part.
Riforma Medica.

Excessive Sweating of the Hands.

℞. Acidi borici........................gr. v
Sodii boratis
Acidi salicylici, āā........................gr. xv
Glycerini
Alcoholis diluti, āā........................ʒi
M. Sig. To be rubbed on three times a day.

Dysmenorrhea, Menorrhagia of Puberty and Uterine Atony.

℞. Ferri et ammon. citratis
Pulv. ergotæ, āā........................ʒi
Extracti kola, q.s.
M. et div. in pil. No. l. Sig. From two to six to be taken daily at the menstrual periods.
Riforma Medica.

Lutaud's Pills for Amenorrhea.

R. Ferri et potassii tart........................gr. xlv
Etracti artemisiæ
Extracti absinthii, āā........................gr. xxx
Aloes socotrin........................gr. xv
Olei anisi, q. s.
M. et div. in pil. No. xxx. Sig. One pill to be taken before every meal.
Riforma Medica.

Elixir of Terpin Hydrate for Bronchitis.

The following formula is recommended by Crinon:

℞. Terpini hydratis........................gr. lxxx
Glycerini
Spiritus, āā........................℥iiss
Mellis despumat........................℥ii
Tinct. vanillæ........................m. lxxv
M. Sig. Two to four tablespoonfuls a day.

Enemata.

The following standard formulas for enemata are quoted from "Sickness and Accidents" by Martin W. Curran.

ENEMA OF ALOES.

℞. Aloes ....gr. xl
Carbonate of potassium........................gr. xv
Mucilage of starch........................℥x
Mix and rub together. This is used in cases of ascarides of rectum.

ENEMA OF ASAFETIDA.

℞. Asafetida ....gr. xxx
Distilled water........................℥iv
Rub the asafetida in a mortar with the water gradually, so as to form an emulsion. This is carminative and antispasmodic, as well as laxative.

ENEMA OF COLOCYNTH.

℞. Extract of colocynth........................ʒss
Soft soap........................ʒi
Water ....Oi
Mix. An efficient cathartic.

ENEMA OF OPIUM.

R. Tinct. opii........................ʒss
Mucilage starch........................℥ii
Anodyne, exhibited in cases of severe diarrhea and dysentery.

ENEMA OF TURPENTIN.

Oil turpentin........................℥i
Mucilage of starch........................ʒxv
Administered in cases of ascarides.

NUTRIENT ENEMA.

R. Beef tea........................℥iv
Hydrochloric acid........................m. x
Glycerite of pepsin........................ʒii

Nutritive enemas should contain material for artificial digestion, as the rectum is not an organ of digestion, and, to secure rapid osmosis, should have an acid reaction. To the above formula, if the rectum is irritable, add 10 to 20 drops of tincture of opium.

Glycero-Phosphate of Soda in Functional Neuroses.

This substance is derived from glycerin-phosphoric acid, a product of the decomposition of lecithin. Max Kahane confirms the favorable reports which others have made of the combination. He found that when it was administered to patients suffering from functional disturbances of the nervous system, it seemed to exert a refreshing stimulating effect on the same, but did not benefit the separate symptoms. His formula was:

℞. Sodii glycerino-phosph........................gm. xv
Aquæ dest.
Aquæ naphæ, āā........................gm. lv
Syrupi aurantii cort........................gm. xx
M. Sig. A teaspoonful three times a day in a little water.
—*Klin. Therap. Woch.*

The Treatment of Diabetic Coma.

An increasing knowledge of the dietetics of this disorder teaches the profession that strict adherence to antidiabetic food favors the development of coma. While the exclusion of carbohydrates lessens the amount of sugar in the urine and thus overcomes one symptom of the disease, it is doubtful, says the *Medical Review*, if the diabetes is improved by the lessening of the sugar, in the majority of cases. Greater benefit is to be derived from lessening the carbohydrates than from their total exclusion. The presence of acetone in the urine should at once direct the attention of the physician to the possibility of the development of coma. Even when this is not noted, the peculiar odor of new-mown hay in the breath or a marked lassitude in the patient should be sufficient to direct the attention to this possibility. These symptoms should be followed by an abrupt change from an antidiabetic diet to a strict milk diet. Saline purgatives should be administered to clear out the intestinal tract, as it is possible that diabetic coma may have its origin in fermentations in the intestinal tube. Sodium bicarbonate should be administered in large doses, to overcome the lessened alkalinity of the blood. If coma develops, the following solution should be injected into the colon:

Sodii chloridi........................ʒi
Sodii bicarbonatis........................ʒiiss
Aquæ dest........................Oii

If this is not followed by some relief, the same solution, properly sterilized, should be given hypodermically; or in cases of great urgency it may be thrown into the veins.

Antistreptococcic Serum in Cerebrospinal Meningitis.

Charles P. McNabb believes that: 1. The antistreptococcic serum has a decided stimulant effect on the nerve centers in meningitic coma, but the same results might follow a warm saline hypodermoclyster. 2. It probably increases phagocytosis, and in this way has some antidotal effect on the diplococcus intracellularis. 3. It probably prevents purulent infection of the exudate, and thus lessens the danger in all cases in which the patients survive the first three or four days. 4. From observations of these cases it is hoped that an antidiplococcus intracellularis meningitidis serum can be produced which will have a decided effect in controlling the terrible toxemia of meningitis, and that the associated effect of antistreptococcic serum after the second day will assist in preventing streptococcic infection of the exudate.

Treatment of Hepatic Insufficiency.

According to the *Medical Review of Reviews*, Gilbert and Weil have studied two cases of "lesser diabetes" in which there were present an enlarged liver, digestive glycosuria, urobilinuria and hypoazoturia, together with indicanuria, a picture suggestive of hepatic insufficiency. All these disappeared under administration of hepatic extract. In another case, a consumptive with enlarged liver had no other symptom than indicanuria, which was persistent. Under the use of hepatic extract this symptom disappeared, to return when the extract was discontinued.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New Orleans Medical and Surgical Journal, December.

1.— Municipal Control of Prostitution. Isadore Dyer.
2.—*Chloasma Uterinum. E. A. Blount.
3.—*Fibroids of Uterus, Treated with Thyroid Extract. C. Jeff Miller.
4.— Case of Aphasia in Typhoid Fever in Which the Cause is Doubtful. Early Pneumonia in Typhoid Fever, its Prognosis and Treatment. J. M. DaCosta.
5.— Two Cases of Lead Poisoning with Treatment of Each. Arthur V. Meigs.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), December.

6.—*Multiple Benign Sarcoid of the Skin. C. Boeck.
7.— Operative Routes to the Seminal Vesicles. Percy R. Bolton.
8.— Report of Case of Salicylic Acid Dermatitis with its Histology. Martin F. Engman.
9.— A Castration: A Failure. Edward L. Keyes, Jr.

Modern Medicine (Battle Creek, Mich.), October.

10.— Physiologic Effects of Light. J. H. Kellogg.
11.— Significance of Dental Decay. J. H. Kellogg.
12.— Febrile Albuminuria. Howard F. Rand.
13.— Report of Case of Traumatic Hemiplegia. Dudley Fulton.

Obstetrics (N. Y.), November.

14.—*Hydrorrhea Gravidarum and Hydrosalpinx. F. Stanley Cowles.
15.— Some Practical Experience in Asepsis and Antiseptics in Obstetrics. Douglas Ayres.
16.— Report of Case of Puerperal Sepsis and What It Teaches. Chas. H. Glidden.

Clinical Review (Chicago), December.

17.— Clinical Lectures on Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
18.— Lectures on Gunshot Wounds. C. B. Nancrede.
19.— Landry's Paralysis. Henry M. Lyman.
20.— Clinical Lecture on Obstetrics and Gynecology: Mental and Nervous Derangements in Obstetric Practice. Denslow Lewis.
21.— A Rhino-Laryngologic Clinic. Otto J. Stein.

Canadian Journal of Medicine and Surgery (Toronto), December.

22.— Some Incidents in the Life of John Hunter, Anatomist and Surgeon. A. Primrose.
23.—*Significance of Bovine Tuberculosis and Its Eradication and Prevention in Canada. J. G. Adami.
24.—*Inquiry into Etiology of Chronic Bright's Disease. A. G. Nicholls.
25.—*Great Lakes as a Health Resort. E. Herbert Adams.
26.—*Craniectomy for Microcephalic Idiocy. W. J. Wilson.

Sanitarian (Brooklyn, N. Y.) December.

27.—*Next Step in Work of Refuse and Garbage Disposal. W. F. Morse.

American Journal of the Medical Sciences, December.

28.—*Appendicitis. Maurice H. Richardson.
29.—*Pathology of Paralysis Agitans. H. C. Gordinier.
30.—*Prognosis in Heart Disease. Beverly Robinson.
31.—*Management of Surgical Injuries to Ureters. Beverly McMonagle.
32.—*Nature of Paramyoclonus Multiplex. A. C. Brush.
33.— Parotitis in Old Age. H. J. Walcott, Jr.
34.— Critical Summary of Surgical Treatment of Ptosis. M. L. Foster.

Pennsylvania Medical Journal (Pittsburg), November.

35.— Aortic Regurgitation With Remarks on Flint's Murmur and Paroxysmal Sweating. Alfred Stengel.
36.— Physiology of Circulatory Diseases, With Remarks on Treatment with Digitalin. Henry Beates, Jr.
37.— Case of Leucocythemia. F. J. Patterson.
38.— Report of Case of Resection of Liver for Removal of a Neoplasm, with Table of 76 Cases of Resection of Liver for Hepatic Tumors. W. W. Keen.
39.— What Can We Promise from Operative Treatment of Cancer of Uterus? E. E. Montgomery.
40.— Remote Results in Artisan's Palsy. F. S. Pearce.

Brooklyn Medical Journal, December.

41.—*Modified Procedure for Radical Cure of Varicosities of Internal Saphenous Vein. R. S. Fowler.

St. Paul Medical Journal, December.

42.—*Natural Right to a Natural Death. Simeon E. Baldwin.
43.—*As to Effect of High Altitudes on Weak or Diseased Heart. Frank Donaldson.
44.— Nutritional Diseases of the Cord. W. A. Jones.
45.— Calculus Anuria of Ninety-Six Hours' Duration. James H. Dunn.

Medicine (Chicago and Detroit), December.

46.—*Milk as a Carrier of Infection. C. O. Probst.
47.—*Malignant Tumors of Eye. William H. Wilder.
48.—*General Surgical Anesthesia and Anesthetics. Ernest J. Mellish.
49.— Treatment of Syphilitic Stenosis of Larynx by Intubation. Thomas C. Evans.

Buffalo Medical Journal, December.

50.—*Pus in the Pelvis. Herman E. Hayd.
51.—*Administration of Anesthetics. Frank W. McGuire.
52.— Nervous Dyspepsia. B. C. Loveland.
53.— Plea for More Frequent Use of Atropin in So-Called "Ophthalmias." Lucian Howe.
54.— Note on Spermatocele, with Case. J. Henry Dowd.
55.— Tests for Albumins. Byron H. Daggett.

American Journal of Surgery and Gynecology (St. Louis, Mo.), November.

56.— Extensive Operation for Cancer of Face. J. F. Binnie.
57.— Treatment of Dislocation of Shoulder-Joint; Tubercular Abscess of Cheek; After Effects of Frost Bite. William C. Dugan.
58.— Some Practical Points in Treatment of Diseases of Women. Emory Lanphear.
59.—*Most Successful Treatment of Spina Bifida. W. O. Henry.
60.— Case of Adenosarcoma in a Negress. August Schachner.
61.— Diagnosis and Treatment of Uterine Fibromata. Milo Buel Ward.
62.—*New Method for Reduction of Strangulated Hernia. H. C. Owen.
63.— Vesico-vaginal and Vesico-uterine Fistulæ and Their Cure. Herman E. Pearse.
64.— Case of Large Tumor of the Brain, Producing Few Symptoms save Ocular Changes, with Remarks on the Value of Double Optic Neuritis as a Sign of Brain Tumor. James Moores Ball.
65.— Clinical Notes on Iodoform, Hydrogen Peroxid, etc. R. D. Mason.

Texas Medical News (Austin), November.

66.— From the Standpoint of a Man of Science. Frederic W. Simonds.
67.—*Preliminary Iridectomy for Extraction of Senile Cataract. H. L. Hilgartner.
68.—*Chronic Tetanus Neonatorum. R. A. Goeth.

Southern Practitioner (Nashville, Tenn.), December.

69.— Bubonic Plague. Deering J. Roberts.
70.— Rupture of Quadriceps Extensor Tendon; Extra-Uterine Pregnancy and Operation for. R. E. Fort.

Toledo Medical and Surgical Reporter, Decmber.

71.— Cure of Hemorrhoids, Fistula, and other Affections of the Rectum, by Office Treatment Without Operation. James A. Duncan.
72.— Treatment of Hemorrhoids. O. Hasencamp.
73.— Treatment of Migraine. J. D. Ely.

Columbus Medical Journal, November 5.

74.— Pathology of Typhoid Fever. David N. Kinsman.
75.—*Physicians' Prescriptions. Starling Loving.
76.—*Case of Intestinal Obstruction. Charles H. Merz.

North Carolina Medical Journal (Charlotte), November 20.

77.— Hemorrhoids and Their Treatment. John R. Irwin.
78.— Lithemic Cystitis and Its Treatment. G. Wight.

Pediatrics (N. Y.), December 1.

79.—*Vulvovaginal Catarrh. Francis Huber.
80.—*New Clavicle Splint. Henry Ling Taylor.
81.— State Care of Indigent Crippled Children. Arthur J. Gillette.
82.— Indigestion in Infants and Children. James H. Taylor.
83.— Case of Congenital Macrodactylism. Fielding Lewis Taylor.

Philadelphia Medical Journal, December 2.

84.—*Report of Fatal Case of Trichinosis Without Eosinophilia, but with Large Numbers of Eosinophilic Cells in the Muscle Lesions; with Remarks on the Origin of Eosinophilic Cells in Trichinosis. W. T. Howard, Jr.
85.— Appendicitis. J. O. Conor.
86.— Temperament and Disease, or "The New Humeral Pathology." Albert E. Sterne.
87.— Case of Cerebral Hemorrhage Following Labor. Edmond M. Lazard.

New York Medical Journal, December 9.

88.— Case of Hourglass Stomach (Stomach *en bissac*). Operation. Recovery. Chas. Greene Cumston.
89.—*Early Diagnosis of Aneurysm of Arch. William Porter.
90.— Fibro-lipomatous Tumor of Epiglottis and Pharynx. E. Fletcher Ingals.
91.—*Ventral Fixation of Uterus without Laparotomy. Frank Suggs.
92.—*Dry Heat of High Degree as a Therapeutic Agent. (*Concluded.*) C. E. Skinner.
93.— The Army Ration. Chas. Smart.
94.— Potentialities of the Physician. Kenneth W. Millican.
95.—*Report of Case of Membranous Dysmenorrhea. Robert E. Coughlin.
96.— Puerperal Fever versus Antistreptococcic Serum. Edward F. Brennan.

Medical News (N. Y.), December 8.

97.—*Bacteriology of Yellow Fever Once More. G. Sanarelli.
98.— Some Peculiar Phases of Typhoid Fever. E. G. Janeway.
99.—*Typhoid Fever as Seen in Bellevue Hospital. A. Alexander Smith.
100.— Varicocele, Movable Kidney, Mammary Carcinoma, Recurring Appendicitis. Charles McBurney.
101.— Large Perineural Fibroma Involving the Entire Sciatic Nerve-Sheath. Rudolph Matas.

Maryland Medical Journal (Baltimore), December 9.

102.—Bladder Troubles in Old Men and the Treatment. J. Howell Billingslee.
103.—*The Medical and Chirurgical Faculty's Contribution to the Welfare of the State. Eugene F. Cordell.
104.— Notes on Recent Scientific Literature. W. L. Howard.

Cincinnati Lancet-Clinic, December 9.

105.— Morphine Poisoning? H. V. Sweringen.
106.—*Tuberculosis: Duties of the Hour. H. H. Spiers.

Boston Medical and Surgical Journal, December 7.

107.—*Tumor of Pituitary Body. L. G. Walton and F. E. Cheney.
108.— Special Preparation of Patient, Surgeon, Instruments, Sutures, etc., and Points in Technic of Operations for Herniæ. J. Coplin Stinson.
109.—*Acute Universal Eczema, with Special Reference to Its Etiology. Albert E. Brownrigg.

110.— Case of Chronic Cyanosis without Discoverable Cause, Ending in Cerebral Hemorrhage. Richard C. Cabot.
111.—*Early Sign of Tuberculosis. Thomas F. Harrington.

Medical Review (St. Louis, Mo.), December 9.

112.—*Some Points in Pathology of Appendicitis, with Specimens. John Young Brown.
113.— Further Observations on Treatment of Abdominal Viscera through the Colon. Fenton B. Turck.
114.— Progress in Rectal Anal Surgery. Samuel G. Gant.
115.—*The Drainage Canal. Harold N. Moyer.

Medical Record (N. Y.), December 9.

116.—*Electrostatic Currents and the Cure of Locomotor Ataxia, Rheumatoid Arthritis, Neuritis, Migraine, Incontinence of the Urine, Sexual Impotence and Uterine Fibroids. Wm. James Morton.
117.—*Nature of Expert Testimony, and Defects in Methods by Which it is Now Adduced in Evidence. W. A. Purrington.
118.—*Differential Diagnosis between Chronic Joint Disease and Traumatic Neurosis. Reginald H. Sayre.

AMERICAN.

2. **Chloasma Uterinum.**—This condition is treated here by Blount as due to irritation of the terminal branches of the sympathetic, and as being mainly caused by slowing of the blood current from any cause whatever. The diagnosis is usually easy; only two other conditions can be confused with it. The first, pityriasis versicolor, is a parasitic disease accompained with itching; the other is the large pigmented macular syphilide, which is usually confined to the posterior cervical region, and accompanied with a syphilitic history or other evidence of specific disease. The prognosis should be guarded, as unless the exciting cause is fully removed treatment may fail, and even when removed it may persist for months. The author uses a prescription of corrosive sublimate with diluted acetic acid and borax in water, applied on compresses every three hours. One very important thing is to remove all mental disturbances.

3.—See abstract in Journal, December 9, p. 1493.

6. **Multiple Benign Sarkoid of the Skin.**—Boeck describes a case of a rare condition to which he gives the above name. It consists of swollen lymph-nodes, with slight augmentation of the white corpuscles, and a wide-spread, somewhat symmetric, eruption of firm nodules on the head and extensor surfaces of the trunk and extremities, ranging in size from a hemp-seed to a bean, and involving the whole skin, and movable with it. On the scalp only yellowish outlines are visible. The color of the nodules is bright red, becoming darker and finally yellowish or brown. Slight scaling occurs in older lesions. They show a tendency to peripheral spreading and central depression. On the face they have a peculiar appearance with blue centers and yellow borders. They finally disappear, leaving as a rule loss of substance in the skin, which may be white on the face, yellow on the back and darker at the periphery on the legs. There were no ulcerations, nor exudation. The disease seems to be benign and disappears under arsenic, or perhaps spontaneously. Histologically the new growth may be described as perivascular sarcomatoid tissue built up by excessively rapid proliferation of epithelioid connective-tissue cells in the perivascular lymph spaces, with little addition of other varieties. The tumor soon begins to degenerate. A few giant cells of sarcomatous type were found.

14. **Hydrorrhea Gravidarum and Hydrosalpinx.**—Cowles describes a case of hydrorrhea gravidarum occurring in a woman two months after confinement, which at first suggested appendicitis, and operation was prepared for, but the discharge of water gave full relief. The same patient had suffered during confinement from attacks of hydrorrhea. He suggests that in this case the tubal glands may have had their part, giving rise to the location and symptoms which suggested a wrong diagnosis. At any rate, there was an extension of inflammatory action to the tubes. He discusses, somewhat at length, the differential diagnosis of inflammatory conditions existing in the right iliac region in women, and expresses the opinion that a thorough exploration of the pelvic cavity by vaginal and rectal touch is essential before operating.

23.—See abstract in Journal, September 2, p. 621.

24. **Etiology of Chronic Bright's Disease.**—The substance of Nicholl's paper can be best given by reprinting his conclusions, as follows: 1. Bacteria are constantly passing from the intestine into the liver, and thence into the general blood-stream, even in a normal animal. 2. The different forms of Bright's disease are to be regarded as various stages in the same general process, there being a unity pervading the whole pathologic picture. 3. All forms of nephritis are due, in the immense majority of cases, to infective agents; the acute, to the usual specific germs of the primary disease, and the chronic, as a general rule, to the bacillus coli, though other germs may sometimes be concerned. 4. Acute interstitial inflammation and subsequent connective tissue hyperplasia are the key-note of the process; this is, however, preceded by parenchymatous degeneration. 5. The point of invasion by the bacillus coli is the gastro-intestinal tract; for other germs it may be various. 6. The liver and mesenteric glands are the first barriers of defense; and the endothelial cells of the capillaries and secreting tubules of the kidney have the power of ingesting bacteria, this being an attempt at inhibition and elimination.

25. **Great Lakes As a Health Resort.**—Adams calls attention to the value of the Great Lakes as a health resort, affording the advantages of sea travel and change and variety of climate, with many conveniences which are not so afforded by more extended trips.

26.—See abstract in Journal, September 9, p. 671.

27.—Ibid, November 18, p. 1292.

28.—See abstract in Journal, June 10, p. 1314.

29. **Paralysis Agitans.**—Gordinier elaborately reports and illustrates the findings in a case of this condition, and discusses the pathology as shown by this and the recorded cases in the literature. He concludes that a careful review of the pathologic changes reported in the twenty-four cases of Parkinson's disease examined by modern methods will convince the most skeptical that it can no longer be included among the purely functional disorders. That it has a distinct pathologic basis seems positive from the following facts: 1. In all cases examined there was a uniformity and constancy in the results of the anatomic findings. 2. These involved the blood-vessels, with a proliferation of the nuclei and thickening of the walls of the blood-vessels, forming, by confluence, patches or areas of perivascular sclerosis; pigmentation with degeneration and consequent atrophy of nerve-cells and fibers, the cells resting in dilated cellular spaces. 3. The spinal cord was in all cases most affected, and in a few it was the only part of the cerebrospinal axis possessing pathologic changes, these being most marked in the gray matter and in the lateral and posterior columns of the cervical and lumbar enlargements. 4. The lesions, alhough similar in character, decrease in intensity brainward, the brunt of the affection being confined to the spinal cord. 5. The changes, while resembling those found in senility, differ from them in intensity, and in the presence of typical patches of perivascular sclerosis, in the absence usually of general arteriosclerosis, and in being associated with a group of characteristic clinical symptoms which often appear long before senility, and when once begun continue to invade, without cessation or intermission, little by little the entire body, producing a clinical picture as distinct and characteristic as that of any disease organic in nature with which we are acquainted. Most observers who have advanced theories in regard to its pathology have started on the basis of the symptoms, hence, the erroneous results. It is evident that we have three characteristic changes: perivascular sclerosis with its predilection for the dorsal parts of the lateral and the posterior columns; degenerative changes of the multipolar nerve-cells, and the general hyperemia as evidenced by multiplication, thickening and local dilatation of blood-vessels, together with cellular infiltration. The two characteristic symptoms, tremor and rigidity, are, Gordinier holds, both due to one and the same cause, viz., an irritation from the presence of an increased amount of neuroglia in the posterior columns, causing excitability of the reflex collaterals of the posterior nerve roots branching around the ventral corneal cells, and resulting in an increase of their normal rhythmic discharge of energy, producing first the tremor and then the rigidity.

30. **Prognosis in Heart Disease.**—Robinson's paper is not easily abstracted, covering as it does a wide range of conditions and treating them in a detailed manner. The reader is referred to the article itself.

31. **Surgical Injury of the Ureters.**—McMonagle reviews

the different operations for the management of surgical injury of the ureters, and reports five cases he operated on by different methods. His conclusions are summed up as follows: 1. Surgical injuries to the ureters during extensive operations on the pelvic and abdominal viscera are comparatively frequent, and are found to occur most often during vaginal hysterectomies. 2. These injuries can often be prevented by especial care, both before and during the operation. 3. In uretero-vaginal fistula, great care must be taken to have the urine aseptic before undertaking an operation for repair. 4. In this fistula also repair through the vagina should be first tried. Failing in this, extraperitoneal implantation into the bladder is to be preferred. 5. When injuries occur during abdominal operations, immediate repair by anastomosis or implantation should be undertaken. If the condition of the patient is low, implantation on the skin should be done with a view to future operation. 6. When anastomosis or bladder implantation can not be accomplished, implantation in the other ureter or bowel is preferable to implantation on the skin. 7. Tying the end of the ureter, with a view to atrophy of the kidney, is not advisable. 8. Nephrectomy should only be practiced as a last resort. 9. The results of the different methods of uretero-anastomosis and bladder implantation have been about equally successful.

32. **Paramyoclonus Multiplex.**—The author's attention was directed to this subject by the occurrence of three cases of this peculiar spasmodic condition first described by Friedreich in 1882. He reproduces with these, six more cases from other authorities, and on examining their symptoms and causation concludes that we have in this a condition which, in the absense of heredity, does not contradict its being of hysteric origin; its etiology is that of hysteria, as are also its symptoms. If we are not to classify this condition as hysteria, we are compelled to assume that it is at least at times hysteria.

41. **Varicose Veins.**—Fowler describes an operation which has lately been adopted by him for the operation on varicosities of the internal saphenous vein. It consists in ligation and section of the vein at the saphenous opening and complete excision through two one-half-inch incisions of the entire internal saphenous vein below the knee. His technic, after the first incision and ligation and identification of the vein below the knee-joint, is as follows: "A skin incision one inch in length is made down to it and a piece of catgut passed around it for purposes of traction. It is isolated as far in an upward direction as possible by introducing the long slender handle of a scalpel along its course beneath the skin. This is facilitated by putting the vein on the stretch. The vein is strongly attached so that it gives way at the uppermost point. The isolation of the vein is then carried on in a downward direction as far as may be. It is put on the stretch. This causes it to become prominent for the whole length of the leg. A second incision one inch in length is made over the course of the vein a few inches below the juncture of the middle with the lower third of the leg, so as to escape pressure from the shoe-top on any scar which might result. The vein is brought into this incision, isolated as far as possible in a downward direction and attracted so as to cause it to give way at the lowermost possible point. Isolation is then carried in an upward direction as far as may be. We now have two small incisions through each of which protrude three or four inches of the internal saphenous vein. It is still held by some few attachments at a point midway between the two incisions. By alternately attracting first one of the free ends of the vein and then the other, these points of attachment are gradually loosened and the entire vein removed, as one would withdraw a catheter from the bladder. A half-inch incision is carried down to the external saphenous vein midway between the knee and the ankle The vein is isolated as far in an upward direction as possible, and traction put on it until it gives at the highest possible point. The same procedure is repeated in a downward direction and the vein withdrawn. Hemorrhage from the torn tributary veins is as a rule inconsiderable and stops spontaneously. In any event the pressure of the dressing is amply sufficient to control it. The skin incisions are closed with linen subcuticular sutures, and dressed. The entire limb is bandaged firmly from the toes up and ended with a spica of the thigh and pelvis, in order to securely retain the dressing over the site of ligation at the saphenous opening. In addition, the limb is placed on a Volkmann splint and securely bandaged to it. At the end of one week the sutures are removed and the patient is allowed to walk about with the extremity snugly bandaged." In addition to the excision of the internal saphenous veins, it will be seen that the external saphenous is also similarly excised.

42. **Right to Die.**—This paper is the one which has aroused so much discussion in the lay press, being the annual address before the American Social Science Association at Saratoga last September, by Judge Baldwin of Connecticut. It has been editorially commented on in our columns. (See Journal, September 16, p. 739.)

43. **High Altitude and Heart Disease.**—His attention having been called to the subject of the effect of high altitude in diseases of the heart, by a recent paper by Babcock (*Med. News*, July 15; Journal, July 22, ¶ 129, p. 219), Donaldson takes issue with his second proposition, that the ill-effects of low atmospheric pressure in some forms of cardiac disease are explicable on the theory of acceleration of venous flow and consequent quickening of the pulse. He does not find that there is an acceleration of the venous flow, and believes that the cause of the dyspnea and cardiac failure are diminished pressure of the thin walled right heart and the thinner walled veins of the chest. In very high altitudes the want of oxygen is the great cause of dyspnea, but in ordinary ones of from 3000 to even 10,000 feet, the hemoglobin can take up sufficient oxygen for its needs. In these altitudes Donaldson believes there is, in spite of Babcock's opinion, a real danger to every weak and diseased heart.

46. **Milk As a Carrier of Infection.**—The possibilities of milk being a carrier of infection are, according to Probst: 1, those that may come from contamination from outside, as in the instance of unclean vessels; 2, those due to infection before it leaves the cow. Tuberculosis is the first and most important thing considered, and the author suggests that the only way to prevent infection will be by legal regulation, frequent inspection, license to sell, remodeling of cow stables and full co-operation of dairymen. He suggests that it is not necessary to slaughter all cattle found tuberculous, as with change of pasture, plenty of fresh air, etc., they may recover.

47.—See abstract in Journal, May 27, p. 1174.

48. **Surgical Anesthesia and Anesthetics.**—Mellish's article is completed in this issue, and he sums up his conclusions in thirty-five propositions, the chief of which are: Chloroform kills by its action on the circulatory system, ether by that on the respiratory. In anemia of the medulla the patient should be placed head down. In sudden paralytic dilatation of the right heart, as after several deep inhalations of chloroform, the heart should be rhythmically compressed by squeezing the chest and the feet lowered, artificial respiration being constantly maintained. Anesthetics interfere with metabolism, causing degenerative changes, especially of the vital organs. Chloroform is probably most dangerous in this respect. Laboratory experiments are to be distrusted unless agreeing with clinical experience and studies. Cocainizing the nasal mucosa to antidote certain bad effects of anesthetics is not commendable. Body warmth must be kept up during anesthesia, but very high room temperature is not desirable and may do harm. Ether is no more liable to produce nephritis than chloroform, probably less so. Most of the bad effects of ether, and to some extent of chloroform, on the kidneys, are due to faults of technic and preparation. Nausea is best prevented by preparation and after-treatment favoring normal physiologic tonus. Gastric lavage after anesthesia, followed by vinegar inhalation, will generally modify or prevent it. The danger from hemorrhage is no greater, if as great, with ether than with chloroform. The safety margin is much less with chloroform than with ether. Patients should be well fed with digestible and non-bulky food, to within a few hours before operation, and should be allowed water to within two or three hours of it. Shock will be less and elimination of anesthesia more rapid. For the same reason water should be given freely after anesthesia. Routine methods should be avoided, the agent being selected to meet the special needs. Any anesthetic, but especially ether, should be used cautiously in the presence of respiratory complications. Further facts as to nitrous oxid are required, but

its general use is not practicable. Most inhalers are bad; the Esmarch chloroform mask is the cleanest. safest and best; the open method, however, in giving ether is not always practicable. The tongue forceps is a barbarous instrument; the mouth-gag is often dangerous by forcing the tongue against the pharynx. No person who has not a wholesome fear of anesthetics can be trusted to administer them; beware of one who believes any anesthetic perfectly safe. Patients who greatly fear anesthesia are most likely to give trouble, while intelligent and educated ones are easiest. The pupillary reflexes constitute the best guide to presence or absence of surgical anesthesia, but the pulse, pupils, respiration, and color of the skin should all be carefully watched from the beginning of anesthesia until consciousness is fully restored. Noisy breathing generally means faulty administration. The minimum amount consistent with the requisite anesthesia should only be used. Compression of the phrenic nerve properly done will usually control vomiting, etc. The use of drugs preceding and during anesthesia should be avoided if possible, and, if needed, they should be used with the greatest care; other means should be depended on for the prevention of syncope and to resuscitate. Mixtures are generally less safe than single anesthetics. Partial or talking anesthesia is advisable in some cases, but should be avoided in delicate and sensitive patients, especially for prolonged operations, unless taken quietly and with apparent abolishment of pain sense. Lastly, anesthesia and anesthetics should be thoroughly treated in medical colleges, and students instructed practically in the same.

50. **Pus in the Pelvis.**—Pus in the pelvis should be dealt with on general surgical principles, and evacuated as soon as diagnosed with certainty. The question of diagnosis and the methods of relief are discussed by Hayd, who argues against any too general adoption of the vaginal method, and answers some of the objections to the abdominal operation.

51. **Administration of Anesthetics.**—McGuire advises a few days' prior preparation with thorough examination of the heart, lungs and urine, clearing out of the bowels, etc. He insists on the qualifications of the anesthetizer and advises chloroform in all pulmonary and renal diseases, those of the bloodvessels, in abdominal distension, in cardiac lesions unless the compensation is disturbed, in cases of severe pain, in operations by gas light, in obstetric cases, in cranial, laryngeal and abdominal operations, in those of the face and mouth, in children and old people, in emergency cases where speed is required, in patient's known to bear ether badly, and where the anesthetizer is skilled. Ether may be given in preference where chloroform is badly borne, with an unskilled anesthetizer, in extreme prostration, in collapse following loss of blood, in chronic alcoholism, and where there is evidence that chloroform affects the heart or vessels. No anesthetics should be given in operations for repair of the soft parts following labor, as they are apt to produce alarming hemorrhage. The details of anesthesia are gone over with special reference to the least amount of anesthetic required, the effects on the circulation, respiration, etc. He objects to too much use of stimulants. In conclusion he suggests that the anesthetizer's position is not appreciated and his remuneration is inadequate.

59. **Treatment of Spina Bifida.**—Henry holds that not all the cases of spina bifida require injection or other operative treatment. Some can be cured by compression, but the large majority require some radical treatment, and in skilful hands will give not less than 70 or 80 per cent. of cures. Excision is more scientific and successful than injection, and when operation is required the age of the child is not to be considered. When paralysis or other nervous symptoms occur, no matter how old the patient, benefit may accrue from operation.

62. **Strangulated Hernia.**—Owen recommends the aspiration of the bowel in strangulated hernia, with a small trocar, and injection of 1/4 gr. of morphin sulphate and 2 drams of water, then with elevating the hips and flexing the thigh, taxis will easily reduce the hernia. He has performed the operation twice with success, and believes that many cases of strangulated hernia, otherwise irreducible, can be rendered reducible by puncturing the tumor with the smallest sized trocar or exploring needle that would allow the exit of incarcerated flatus.

67. **Preliminary Iridectomy in Cataract.**—Hilgartner reports two cases of senile cataract in which, prior to operation for their correction, he performed an iridectomy. He gives his reasons for this procedure as: 1. The operation in two steps renders each one shorter and less complicated. The presence of germs must always be counted on, and the swifter the operation and the less violence to tissues the better on this score. 2. The maturing of an unripe cataract is frequently hastened. 3. The patient is gradually educated to the carefulness necessary after the more serious operation of the lens extraction. 4. During the extraction there is no hemorrhage from the iris. 5. The iridectomy offers a larger space for the introduction of the cystotome, and freer opening for the escape of lens and cortex. 6. Division of the traumatism, the iris wound having already healed, leaves only the corneal incision to unite. Moreover, an eye after having recovered from one operation stands subsequent operations better. 7. Although this division of the operation is peculiarly adapted to complicated cases, it is contraindicated in no form of cataract. In regard to authoritative practice, it may be mentioned that A. von Graefe employed preliminary iridectomy in unfavorable cases, or when a former operation had terminated in suppuration. The disadvantages are not serious. The inconvenience of two operations is not serious, nor is the lengthening of the course of treatment. The patient's chance of seeing ought not to be jeopardized in order to let him get through quicker and with less inconvenience.

68. **Tetanus Neonatorum.**—Goeth describes a condition of chronic tetanus in new-born children, occurring in the fall season with warm days and cold nights, which generally ends in recovery, but which has not been largely noticed in the textbooks, probably because it is not so prevalent in the Northern States. He does not see how the tetanus bacilli can have anything to do with it, as he is careful to observe antisepsis in his midwifery cases. He asks more particulars from practitioners who observe this disease, as to the following points: How long does the disease last, if ever less than three weeks? Does it always begin with the ninth day of the child's life? Does antitoxin do any good? Is any other treatment successful? He himself has used only symptomatic treatment, mainly asafetida and brandy.

75. **Physicians' Prescriptions.**—Loving notices the errors and bad practices in relation to prescribing medicine, and points out what he thinks are the proper remedies. He does not believe in the successful change from the old to the metric system in prescriptions.

76. **Intestinal Obstructions.**—The case reported by Merz is one of apparently complete intestinal obstruction, with fecal vomiting, which was cured by an injection of one-half gallon of warm soap-suds, the patient being in the knee-chest position and then inverted and thoroughly shaken. In fifteen minutes a large quantity of fecal matter passed without pain. He gave instructions to administer a dose of castor-oil, but the patient's sons, whose zeal outran their discretion, repeated the earlier treatment, much to the patient's disgust but with no bad results. He thinks this method was first recommended by Jonathan Hutchinson, who advised it to be done under anesthesia, and while he, himself, admits the risk, he prefers it to operative procedures when there are no localizing signs of obstruction. Probably if any damage had been done it could have been afterward relieved by operation.

79. **Vulvovaginal Catarrh.**—Huber's paper is devoted to gonorrheal vulvovaginal infection in infants, and its diagnosis and treatment. He calls attention to the medicolegal importance of the subject, and an early recognition of the nature of the discharge. All cases should be carefully examined bacteriologically. For details of treatment, the reader is referred to the article. The disease is rather intractable and a too early cure must not be expected.

80. **A New Clavicle Splint.**—The splint described by Taylor consists of two convex, pear-shaped, hard-rubber pads, fitting into the depression in front of the shoulders, and joined by a rigid adjustable bar, curved forward so as not to touch the chest. Each pad carries a buckle above and a strap below, and the back piece to which it is buckled consists of a stiff piece of sole leather lined with chamois and a layer of padding, and provided with straps at the upper corners and buckles at the lower, and large enough to overlap the posterior borders of the scapula an inch or more and reach from the root of the

neck to well below the axilla. When applied, the splint is set as wide as possible and buckled, forcing the shoulders back by backward pressure of the pad in front, on the humerus, and forward pressure of the large piece behind on the inner margin of the scapulæ. The adjustment is easy, according to needs, and a wider splint is usually required than is ordinarily expected at first. The splint allows use of the arm during most of the treatment. A sling is required only the first few days, sometimes not at all. The apparatus acts as an independent shoulder girdle, assuming the function of a clavicle.

84. **Trichinosis.**—The recent publication of T. R. Brown and Gwyn in which they regarded eosinophiles of high grade—42 to 68.2 per cent.—as a constant and therefore important diagnostic sign of human trichinosis is contradicted in a case reported by Howard, who failed to find the eosinophiles in the circulated blood, though present in the muscular lesions and the mucosa of the stomach and intestines.

89. **Aneurysm of the Arch.**—The symptoms of aneurysm of the aortic arch are here reviewed by Porter. There is only one that is positively characteristic, and that is the presence in the chest of a pulsating tumor other than the heart, beating with it and expanding in every direction at the same time as the heart beat and at least as forcibly. The laryngeal symptoms are also noticed, and he remarks that pressure on the recurrent nerve does not necessarily produce aphonia. The phenomenon of compensatory arytenoid movement is now sufficiently established. The laryngeal image is normal in appearance and function, excepting when there is paralysis of one recurrent nerve, most frequently the left, the corresponding cord may be seen in the cadaveric position, while the opposite cord may cross the median line and phonation is possible, and voice changes occur. The only subjective symptom at this stage may be a more or less constant laryngeal cough. A bilateral adductor paralysis may occur when only one nerve is involved, due, it is suggested, to overstimulation and failure of the well side. Dyspnea, though not constant, is important and may be due to motor paralysis or pressure directly on the trachea and bronchi or on the bronchial plexus. Pain in the region of the aorta is often remarked as characteristic, but Porter has not so found it. A more important and just as frequent symptom is pain in the region of the fifth or sixth dorsal vertebra. As regards auscultation, two points should be remembered: There may be heard in the left interscapular space an arterio-diastolic murmur or a systolic murmur due to the beating of the aneurysmal sac on the left bronchus. The second point is the presence of a systolic sound or thud in the brachial artery, synchronous with the systole of the heart. Porter mentions two methods of examination which he has devised. One is the conveyance of the impulse from the aneurysm through a distensible bougie, and its measurement, which he has learned has also been devised by Schnell in 1889. Another method which he thinks is original with him is the auscultation of the aneurysm through a solid esophageal sound, which promises to be an improvement, not only in better conduction but also in a clearer definition, over the ordinary auscultatory methods.

91. **Ventral Fixation of Uterus Without Laparotomy.**—Suggs' method is operating through the vagina and opening Douglas' pouch, breaking up adhesions and treating local conditions, and then bringing down the fundus through the opening and placing two silkworm gut sutures in the anterior uterine wall and scarifying. The sutures are caught with artery forceps and the fundus pushed back into the peritoneal cavity. The patient is now placed in the Trendelenburg position. A long curved canula with a strong flexible trocar, which may be thrust out several inches, and having an eye near the point for threading, is now threaded and the point drawn back, leaving a free loop hanging down by the instrument. Into this loop is placed one of the silkworm gut suture ends and twisted. The canula is now guided directly upward and forward by two fingers, through the vaginal incision toward the abdominal wall, which can be reached when pressure from without is made. The trocar is now thrust through, carrying the silk with it, which is now unthreaded and in its turn draws the silkworm suture through. The other suture ends are likewise drawn through, their proper or relative positions being maintained, and the opposite ends tied together with a small piece of gauze. The sutures remain in the usual time and the vaginal incision is closed with one of fine catgut. This method, which is contraindicated in the presence of pus, has, he claims, the advantages of a simple vaginal incision over a laparotomy and those of a ventral fixation over other methods.

92. **Dry Heat.**—Skinner's article is concluded in this issue, but he promises to report and discuss the results of the treatment in other disorders in a future paper. His summary of present results is as follows: Hot air is a pain-relieving agent of unequaled value in those conditions where its application is indicated and possible, because of its very constant effectiveness, rapidity of action, and the absolute absence of deleterious after-effects. In rheumatism, at least, its action is so profound in connection with judiciously chosen drugs that it may almost claim a positive curative power of its own, and may certainly be said to be the most powerful contributing agent we know of. Many cases can not be cured by drugs without it, and in any case the victory over the ailment is much hastened and the victim maintained in comfort during the attack. On the other hand, we must remember that it appears to be rarely if ever capable of overcoming the disease without the aid of drugs. It is capable of stimulating tissue repair to a remarkable degree, as is demonstrated by its effect on sprains and on at least many cases of intractable varicose ulcers. It is capable of most happily influencing septic inflammations of serous membranes, as is shown by its action in peritonitis and pleurisy. It will many times at least give us the power of economizing nervous energy by relieving pain and other more or less dangerous conditions in pneumonia, thereby enabling us to refrain from sedatives and cardiac stimulation, and the nervous energy we may thus save for the patient will sometimes be sufficient to tide him over a crisis by which he would otherwise be overwhelmed. We can not expect hot air or any other one measure to do everything. It will do much and its powers are exerted in a direction in which we have hitherto been lamentably deficient; hence its addition to our armamentarium will enable us to increase by a large percentage the sum total of our power over disease. The capabilities which it has so far manifested, and we have as yet only begun to investigate them, are sufficiently weighty to justify belief that dry heat of high degree is destined to become in the near future a therapeutic agent of as great popularity as it possesses diversified applicability.

95. **Membranous Dysmenorrhea.**—Coughlin reports a case of membranous dysmenorrhea occurring in a virgin aged 31, which the author publishes as exceptional. He calls attention to the possibility of mistakes in taking the discharged mass as the product of conception.

97. **Bacteriology of Yellow Fever.**—Sanarelli's paper is a vigorous attack on his critics. He maintains that it has been proven that his bacillus icteroides is undoubtedly found in patients with yellow fever, and in the bodies of those who have died from it, and that it can be isolated from practically every case. He further holds it as proven, in spite of the criticisms of Reed and Carroll and others, that it is found only in this disease and that no one has ever succeeded in finding it in any other. He claims that the fatty degeneration of the liver is peculiar to this disease and that this effect of the germ distinguishes it from any other pathogenic agent. Finally, he holds that it reproduces in animals all the symptoms and anatomic lesions which can be considered characteristic of yellow fever in human beings. [His article is strongly polemic and is open to objection as to its tone. In the "Correspondence" in this issue of the *Medical News*, Dr. Sternberg replies in a dignified manner, stating that he is still open to conviction, but giving his reasons for not as yet accepting Sanarelli's views.—ED.]

99. See abstract in JOURNAL, November 11, p. 1229.

106. **Tuberculosis.**—Spiers is not a believer in the microbic theory of tuberculosis, and holds that the death-rate of the disease is due to the suspension, as he calls it, of atmospheric influences, which prepares the soil for the bacillary growth.

107. **Tumor of Pituitary Body.**—The case here described by Walton and Cheney was that of a physician, aged 26, who had peculiarities of growth suggestive of congenital defect of the pituitary glands. Attacks of migraine, accompanied by hemianopsia had existed so long as to at first exclude an or-

ganic basis. Later there was a persistent defective visual field involving the side of one eye only, with a later extension to the nasal field of the other eye, and further we have a color defect in the otherwise unaffected side of one eye. During the progress of the case there occurred loss of sexual power, diminution of vision and optic atrophy, these symptoms with persistent headaches fixing the diagnosis of tumor. Toward the end appeared vasomotor symptoms, somnolence, physical weakness and lack of mental grasp. The pathologic findings showed the tumor, which had caused the disappearance of the olivary process and portions of the sella turcica, to be a perithelial angiosarcoma. The authors end their paper as follows: 1. Congenital peculiarities in growth resembling those of acromegaly, but occurring in otherwise healthy individuals, may point to structural defect of the pituitary gland, a defect sometimes furnishing the starting-point for new growth later in life. 2. The occurrence of pituitary tumor without definite symptoms of acromegaly does not necessarily disprove a connection between this organ and this disease, for the persistence of even a small amount of healthy gland tissue is sufficient fairly to carry on the function of the pituitary body. 3. The combination of general symptoms of new growth with optic atrophy and loss of temporal field of vision makes the diagnosis of pituitary tumor almost certain. 4. Hemiachromatopsia is not necessarily of central origin.

109. **Chronic Universal Eczema.**—Brownrigg reports and discusses a case of acute universal eczema in a chronically insane patient, relieved by intestinal evacuation and antisepsis. He believes that this form is always dependent on intestinal derangement due to increased putrefactive changes in the small intestines. The toxins thus given off irritate the kidneys in their excretions, and probably form the irritating factor in their irritation of the skin.

111. **Early Sign of Tuberculosis.**—Attention is called here to a widely dilated state of both pupils, due apparently to some irritation, possibly of the sympathetic, caused by some blood change associated with very early tubercular infection. The author offers it as the result of his individual observation, and asks for further testimony in regard to it by other observers.

112. **Appendicitis.**—The principal points here referred to by Brown are the importance of thoroughly blowing out of pus from the abdominal cavity, with peroxid of hydrogen, the complete removal of the appendix, leaving no stump, the dangers of iodoform gauze for drainage, and the through-and-through closure method.

115. **The Drainage Canal.**—Moyer, noticing the article by Phillips, opposing the drainage canal, which appeared in the *Review*, argues that the effects of this opening will be to better the condition by largely diluting the sewage which is now poured down the Illinois River and pumped through the Illinois and Michigan Canal. The effect of the drainage canal will be simply the addition of a large amount of pure water from Lake Michigan, and while it may not be completely germ-free, it will be much better than the present flow.

116. **Electrostatic Currents.**—Morton finds the electrostatic current applicable in cases of locomotor ataxia, rheumatoid arthritis, urinary incontinence, sexual impotence, neuritis, neuralgia, migraine and uterine fibroids, of all of which he reports cases in which it has been used with benefit. He also has found it useful in ordinary rheumatism, in all forms of gout, synovitis, enlarged prostate, anemia and chlorosis, and especially in neurasthenia and melancholia, and all conditions in which a state of malnutrition exists.

117. **Expert Testimony.**—This article, by a legal author, treats of certain points in expert testimony which are yet in an unsettled condition. He notices the arbitrary rules of evidence and the defects of our system of eliciting the truth, also the fact that judges who have so often contemptuously disregarded expert testimony are themselves really experts in law and acting as such and are liable to the same personal disabilities as other experts. He notices the lack of standards of competency and the fact that counsel often embarrass experts, unintentionally and otherwise, in telling the facts as they know them. Prejudice of interest as it acts on lawyers and witnesses is also noticed, and he admits in conclusion that there are fundamental sources of error and uncertainty at the bottom of all our difficulties with expert testimony, and no consideration of remedies is adequate that disregards them.

118.—See abstract in Journal, November 11, p. 1229.

FOREIGN.

British Medical Journal, November 25.

A Modern View of Cancer. Gilbert Barling.—The subjects discussed and treated in Barling's paper are three: the supposed increase of cancer mortality, the possible infectious nature of cancer, its surgical treatment. As regards the first of these, he is inclined to agree with Newsholme that the apparent increase is not a real one, but is due to more accurate death certification. In former years many cases were certified as due to indefinite causes, now attributed to cancer. As regards the infection question, in a general way he favors the opinion that cancer is the local expression of the irritation induced by bodies from without, and he discusses the recent works on the subject, admitting that the positive cause of the condition has not yet been shown. In this respect, however, it is like syphilis, the infectiousness of which no one doubts. The operative treatment is discussed at some length from a hopeful point of view. He commends Halsted's method of thorough excision of all lymph glands in the line of cancer infection, though stating fully its disadvantages.

Incidence of Cancer. Arthur Jackson.—The parasitic theory of cancer is discussed by Jackson, who points out some of the conditions under which it seems to especially abound. Assuming that cancer is due to parasitic infection, he argues that excessive and irregular blood-supply seems to favor its growth, though not so necessary for its origination. He suggests that there may be some special properties or substances in the blood that have something to do with it. He believes that something in the nature of a specific will be discovered some day, and the facts now known as to the beneficial action of thyroid and certain toxins indicate this.

Treatment of Surgical Shock by Large Doses of Strychnin. J. Basil Hall.—The author reports two cases in which death seemed imminent during operation, but postponed or prevented by the injection of 1/4 gr. of strychnin, and another case of double amputation of the leg in a railway accident in which 1/5 gr. of strychnin seemed to have a like good effect. He urges a bolder and more systematic use of this drug in these cases, and believes that better results will follow such a course.

Lancet, November 25.

Influence on Health of Chemical Preservatives in Food. Alexander G. R. Foulerton.—Boric acid and formic aldehyde are the two preservatives now used to any extent in milk and other food products, and their action on the economy is here considered by the author. First noticing the direct action of the preservatives on the tissues of the body, he gives tables made up from those of Chittenden, Mayberry and Goldsmith and his own studies, and as regards the effect of boric acid and borax on the tissues, and on the health of the consumer, and gives a summary of the experiments of Chittenden and Gies showing that experimental evidence does not throw any special light on the possible effects on man. He next gives a table of published cases of poisoning by boric acid, showing that doses about equivalent to the amount which an invalid adult on milk diet might take if the preservative were present in the proportion of 1 part to 2000, are capable of producing in certain cases serious toxic symptoms in the adult, and it must be assumed that a proportionately larger amount taken by an infant might also be dangerous. The subject of formic aldehyde is only commenced in this article, which is to be continued.

Red Coloration of Feces Simulating Presence of Blood. Alfred H. Carter and C. A. McMunn. The importance of blood in the fecal discharge makes it unnecessary to be precise as regards its presence, and the authors here mention three cases in which there was a simulated appearance of blood, which chemical examination proved was not present in any form. The appearance was due to a pigment closely related to stercobilin, the normal pigment, though differing in some slight particulars. He thinks this difference due to the incompletely metabolized condition in which it was excreted, and the color was due to exposure to the air acting on the chromogen of the pigment.

New Method of Skin-Grafting. Thomas H. Kellock.—The author adopts, for skin grafting, a method in which he takes a piece the whole thickness of the skin, surrounded by a narrow margin of epithelium. The wounds due to the removal of the grafts may be sutured or left to granulate.

Indian Medical Gazette (Calcutt), November.

The Laveran Body in Birds. E. Lawrie.—Examining the blood of birds, in the laboratory of the Hyderabad Medical School, Lawrie found the proteosoma in a very large proportion of sparrows, pigeons and crows, in 100 per cent. of the latter, and his conclusions are in opposition to those of Ross and other authorities, in that he believes that they are not of parasitic origin but simply a product of the blood. His conclusions are stated in the folloing: "1. The sow-called 'halteridium' is the halter-shaped, and the so-called 'proteosoma' is the spherical-shaped Laveran body in birds. 2. No form of the Laveran body, avian or human, can be isolated or cultivated. All the known facts show that it is not a parasite, and as it fulfills none of Koch's canons, it can not be a pathogenic organism. 3. Neither the plasmodium nor the proteosoma possesses the function of the reproduction. 4. Our experiments show that in birds the Laveran body, proteosoma, is a product of the blood, developed in the red blood-cell, and not producing any deterioration in the health of the bird. It can not be reproduced by inoculation from bird to bird, and is not infective and does not multiply in the blood. 5. Seeing that the Laveran body, the plasmodium or the proteosoma, is not a parasite, and that it can not be reproduced by experimental inoculation, it is unlikely that it can be reproduced by a mosquito bite. There is no ground for supposing that the passage of the proteosoma through the mosquito, granting this to be possible, could render it infective. If it could, the cause of malaria would be the mosquito and not the "parasite": that is, of course, absurd. 6. The mosquito theory of Ross, on malaria, is based on a series of assumptions and not on facts. One of these is the assumption which was originally put forward by McCallum of Baltimore, and adopted by Manson and Ross, without examination, viz.: that the flagellum is the male and the hyaline cell the female element of generation in the Laveran body in birds. Now the plasmodists say that the rosette is a sporulating body, and that the formation and liberation of spores by the rosette is the method by which the reproduction of the Laveran body is affected. Our discovery of the rosette in crow's blood proves that McCallum's assumption at all events is false, since it is evident that even if the proteosoma were a parasite, it could not be reproduced in two entirely different ways. On the other hand, the rosette is proved not to be a sporulating body in the bird's blood by the fact that its spores are considerably larger than the speck in the red cell, which is the form in which the proteosoma first appears in the blood. Another of the unwarrantable assumptions of Manson and Ross is that it is possible to infect birds with proteosoma by mosquito bites. To have made his position tenable, Ross ought first to have shown that the birds he believed he had infected with proteosoma by mosquito bites would not have got them if they had not been bitten by mosquitoes. Our experiments have clearly shown that you can never be certain that birds of the class in which proteosoma are found—such as sparrows, crows and pigeons—will not develop them spontaneously, and the manifest ignorance of Ross, on this fact, entirely vitiates his inoculation experiments, as well as the conclusions he has drawn from them."

Bulletin de l'Academie de Medicine (Paris), November 15.

Prophylaxis of Syphilis by Treatment. Fournier.—The sterilization of syphilitic subjects by prompt and adequate treatment, so as to deprive them of danger for others, is not accomplished by our present method of treatment. Syphilis can not be treated to a complete cure in our hospitals, and the dispensaries are "free" only in name as the consultants are compelled to lose the wages of half a working-day in order to attend them, while the humiliation of confessing a venereal disease in public, the haste, the lack of time for obtaining accurate data and impressing prophylactic measures, render their benefits illusory. The conditions deter many from taking advantage of them, and few return for adequate treatment, but it is of the utmost importance for the general welfare that syphilitics should be instructed in the multiple and various dangers to which their condition exposes others as well as themselves, and this is impossible in a thronged consultation room. Fournier, therefore, makes an eloquent appeal for the establishment of six to eight special polyclinics for syphilitics scattered throughout the city, connected with the hospitals or not, and open at 8 a.m. on Sundays and holidays, and on other days from 7 to 9 in the evening, that is, at hours which would not conflict with bread-winning duties. One day should be set apart for women.

Presse Medicale (Paris), November 22.

Indications for Resection in Non-Fistulous Coxalgia. P. Guibal.—This study of 1023 cases of coxalgia treated at Berck during the past seven years urgently impresses the necessity of patience: "tuberculous changes in the hip-joint are never repaired under three or four years, and may even partly survive longer than this." Ménard's practice is absolute immobilization in a good attitude, extension in bed at first and then a plaster cast, kept up for two years at least. Walking should be supervised and the patient put to bed again at the first evidences of pain, limping and rapid fatigue. Watch should be kept for an abscess. It is easy to work the fingers under the cast to palpate the region, in search for an abscess—an opening should be left in the cast for the purpose—and this should be done every month. There is no pain under the plaster; fever is exceptional and the evidence of an abscess is usually a surprise. If it remains deep, with no tendency to open, punctures and injections are usually sufficient treatment, resulting in a cure in over three-fourths of the cases. If it persists over six months, resection may be indicated; urgently if the abscess shows a tendency to reach to the surface. The vicious attitude consecutive to a badly treated coxalgia does not impose resection, but osteotomy, and this only when entirely cured and the head somewhat firmly fastened to the ilium and immobilized. In a few rare cases the head is very movable after recovery. Ménard cures these "floating luxations" with Hoffa's operation for congenital luxation.

Semaine Medicale (Paris), November 22.

Levulosuric Syndrome. P. Marie.—A couple of years ago Marie described a syndrome: melancholia with ideas of ruin and suicide; obstinate insomnia; permanent impotence; presence in the urine of a substance reacting to Fehling's solution and rotating the plane of polarization to the left; rapid disappearance of all these symptoms on suppression of carbohydrates. Lépine asserts that the disappearance of the syndrome on a diabetic diet is evidence that the two observations on which the syndrome was founded must have been cases of diabetes, and that the levorotatory substance has merely never been sought before in diabetes, but Marie responds, reaffirming the rare special character of the syndrome while awaiting an opportunity for further observations by himself or others.

Berliner Klinische Wochenschrift, November 13.

New Method of Mercurial Treatment. Blaschko.—Welander is now using, instead of his pillow-slip (see Journal xxxii, p. 615), a bag filled with "mercuriol," a powder containing 40 per cent. Hg., an amalgam of Hg. with tin and aluminium. He has been following the pillow-slip method for two years, but always disapproved of it as dirty and wasteful of mercury, although appreciating its efficiency. He has now obviated these inconveniences by having a cloth impregnated with mercury, "mercolint," which is made into a little apron to be worn over the chest night and day. The mercolint looks like an ordinary gray cloth. Not a trace of salve or mercury is to be seen. The salve contains 90 per cent. mercury, and each apron thus represents ten to fifty grams of it. In about four weeks the cloth grows white, showing that the mercury has evaporated, and its prompt appearance in the urine, frequent stomatitis and salivation, are evidences that a large amount has been inhaled by the wearer. For the majority of cases, in which less violent measures are required, for slight relapses and intermediate courses ithw Fournier-Neisser treatment, in syphilitic anemia, for pregnant women, for infants and weak persons generally, and as a preventive of exacerbations, Blaschko recommends the wearing of this little apron as a most "effective, convenient, neat, even elegant method of mercurial treatment," while the low price—about thirty-six cents—places it within the reach of every one. The "mercolint" is only sold on a physician's order. The syphilitic processes rapidly heal, except in the most obstinate cases and those requiring the most energetic treatment. The benefits are much more rapid and pronounced when patients remain in bed.

Centralblatt f. Bakteriologie u. parasitenkunde (Jena), October 14-28.

Endovenous Injections of Anthrax Bacilli in Sheep Thoroughly Immunized Against Anthrax. A. Sclavo.—By means of repeated endovenous injections of anthrax bacilli, Sclavo succeeded in overcoming the resistance of thoroughly immunized sheep. The conflict with the bacilli was evidently transferred to tissues less able to oppose them than the subcutaneous connective-tissue, although the blood was full of substances which amply protected rabbits against subcutaneous injections of the bacilli. This paradoxic fact was explained by further research which demonstrated that the immunizing effect of the immune serum is not by direct action, but indirect, by its stimulating influence on phagocytic activity.

Extermination of Mosquitoes. Celli and Casagrandi.—The Italian Societa per gli studi della Malaria has concluded that the thorough extermination of mosquitoes requires a more complete knowledge of their habits of life than we now possess. Tests with hundreds of substances have shown that the larvæ and fully developed mosquito are easily destroyed, but the pupæ are very resistant; and that the most effective of all the substances tested is petroleum with a low specific gravity, which immediately spreads out on the surface of the water and kills the mosquito embryo by depriving it of air, while it has no deleterous effect on fish and vegetation. The writers express surprise that this measure has not been more generally adopted. The oily sheet evaporates so that it is only effective for two days. After this time the spaces here and there completely nullify its usefulness. Next in order of effectiveness is the insect powder made from the unopened buds of the chrysanthemum. It is harmless for animals, and the suggestion is made that the plant, *Chrysanthemum cinerariae folium*, be planted on a large scale in malarial regions. Certain aniline dyes—larycithin, gallol and malachite green—are also insecticides, and if the air is saturated with turpentin, camphor, garlic, iodoform, menthol, nutmeg or sulphur fumes, the mosquitoes will be destroyed, but any degree less than saturation merely benumbs or drives them away without killing them.

Antisepsis of the Mouth. C. Roese.—A large number of mouth washes were tested on subjects who during the forty-eight hours of the tests neither ate, drank, hawked, coughed nor talked for any length of time. Each substance was tested at least eight times, some twenty-four. Roese found that tepid physiologic salt solution has considerable bactericidal effect, and recommends it to the sick and poor as an inexpensive and effective antiseptic for rinsing the mouth. Cold substances induce a venous congestion which favors the development of bacteria. He found that the number of bacteria was very much diminished by a meal; the broader the face and consequently the more vigorous the muscles of mastication, the greater the number of bacteria dislodged and carried down into the stomach with the food. Continuous talking also diminished the number of bacteria, and certain articles of food, gooseberries, peaches, cider, have a considerable bactericidal effect. Miller's mouth-wash is the most effective—with the exception of odol—but it must be fresh; otherwise it proves a good culture-medium. Formula: acid. benzoic., 3.0; tint. ratanhæ, 15.0; alcohol, 100.0; and ol. menth. pip, 0.75. One teaspoonful in a wineglass of water for rinsing the mouth. Roese mentions that he cures an inflamed gum by dipping his tooth-brush in 60 per cent. alcohol, and thinks that alcohol will yet assume a more prominent place in antisepsis on account of the great dilatation of the small terminal arteries and capillaries which it induces. (Compare with Buchner, Journal, p. 1096.) The tabulated tests show that odol, in either 5 or 10 per cent. solution, is superior to all other substances which are not directly injurious for either teeth or gums, on account of its strong bactericidal properties, its harmlessness and its pleasant taste. It is a brown oily substance with great surface attraction, and spreads out evenly over the lining of the mouth, where it breaks up into salicylic acid and phenol, the same as salol in the intestines. It is therefore closely allied to salol and yet is physically entirely different.

Centralblatt f. Gynaekologie (Leipsic), November.

Hydrorrhea Uteri Gravidi. W. Stoeckel.—After the third month of an apparently normal pregnancy II-para, a discharge of a clear fluid for several days alternated with hemorrhage until delivery, at the seventh month, of a recently-dead fetus, which had escaped from the ruptured sac into the uterine cavity at an early period and continued its development undisturbed, while the membranes had atrophied and shriveled. The preparation showed a placenta marginata previa, probably the cause of the rupture of the sac and consequent intermittent escape of amniotic fluid. The case is another refutation of Price's assertion that the integrity of the sac is a *conditio sine qua non* for the development of the fetus. He asserts that the peritoneum would digest a fetus unless protected by its sac, but Neugebauer states that he has treated forty cases of extrauterine pregnancy and never lost but one. In many of these the fetus had developed externally to the sac.

Centralblatt f. Innere Medicin (Leipsic), November 11.

Exclusive Milk Diet in Diabetes. W. Winternitz.—"The sugar disappears from the urine usually in forty-eight hours after the adoption of a strict milk diet, and many diabetics are thus permanently cured. One patient under observation for five months, abandoned the milk long ago for an ordinary mixed diet, with no return of his glycosuria." The capacity of assimilating carbohydrates from other sources is no criterion for the assimilation of milk sugar on an exclusive milk diet, The milk banishes the sugar from the urine in diabetes in young or very obese persons, and in the glycosuria consecutive to trauma or shock, also in cases in which the sugar still persists after treatment and a course at Carlsbad. In diabetes associated with albuminuria and nephritis, the albumin also diminishes and may disappear completely. Acetone sometimes appears in the urine on the milk diet, or if present, increases, after the sugar has diminished or entirely vanished. This may be due to autophagism, as Schlesinger found that acetone, acetic and oxybutyric acids appear regularly even in normal urine, on a diet without carbohydrates and with very little albumin. In many cases the vanished sugar reappears again as meat is added to the menu, but return to milk alone will completely banish it again. The weight slightly diminishes at first, but then remains stationary or returns to normal. The account of Winternitz's extensive tests and experiences with an exclusive milk diet in diabetes, are to be published in full.

Centralblatt f. d. Krankheiten d. Harn. u Sexual-organe (Leipsic), Nov. 4.

Implantation of Ureters in Colon. E. Herzel.—In three personal observations considerable renal polyuria and slight albuminuria still persist—7 months, 2.5 and 5 years. Operation was according to Maydl's method. The albuminuria may be due to a relic of a past pneumonia in one case. There is no pus in the urine to suggest infection of the kidneys. Koranyi attributes the polyuria to either nephritis interstitialis or diffusion of water into the urine through the intestinal wall. He found that if a fluid is introduced into the colon, the freezing point of which is higher—like normal urine—than the freezing point of the blood this fluid will become diluted until the freezing point drops to that of the blood. Herzel warns against undertaking this operation until the particulars of the urine and condition of the kidneys have been accurately ascertained, so as to know what to expect.

Centralblatt f. d. Medicinischen Wissench. (Berlin), October.

Differential Diagnosis of Carcinoma and Sarcoma. A. Adamkiewicz.—"If fresh carcinoma tissue is implanted in the brain of an animal—preferably a rabbit—the animal will die in the course of two or three days, with severe lesions only to be explained by migration of the elements of the implanted carcinoma tissue into the interstices of the brain substance with subsequent production of patches of inflammation and necrosis. Carcinoma tissue also responds with a typical reaction to 'cancroin,' the trimethylvinylammoniumoxydhydrate base of neurin, the specific poison which kills the carcinoma coccidium." Adamkiewicz therefore suggests as an infallible means of differentiating carcinoma to implant a scrap of the suspected tissue in a rabbit's brain. If it is not carcinoma, the tissue will be absorbed and the animal remain in his usual health. This and the absence of the cancroin reaction indicate a non-carcinomatous character for the neoplasm.

Centralblatt f. Prakt. Augenheilkunde (Leipsic), September.

Iritis Glaucomatosa. W. Goldzieher.—Out of a number of cases, Goldzieher selects five, which have been under observation for a number of years, of the affection described in the title. All had recovered from a previous iritis; in all, the transformation of the serous iritis into the glaucomatous form was accompanied by a remarkable fibrinous exudate in the region of the pupil. All were cured without surgical intervention, with the instillation of pilocarpin or eserin, and hot compresses. In the first case the rapid loss of vision seemed to impose an operation and the myotic was only applied as a preliminary, but the rapid improvement rendered it unnecessary. The chamber and pupil region were filled so copiously with the exudate that a suppurative iritis would have been diagnosed by any one unacquainted with the circumstance. The intraocular pressure was intense, not from any hypersecretion, but probably from occlusion of some of the anterior lymph passages, and hence retention and the glaucomatous condition. The eyes returned completely to normal in every respect. One subject has since passed through a recent iritis, but without the peculiar exudate.

Bulletin de l'Academie de Med. de Belgique (Brussels), June 24.

Hemostasis in Atony of the Uterus After Delivery. Van Aubel.—In case of failure of all other measures, before resorting to the ablation of the uterus, Van Aubel advocates a median incision, the patient in the Trendelenburg position. The uterus is then lifted out of the abdominal cavity, in exaggerated anteversion, wrapped in cloths dipped in hot physiologic solution, and then compressed *en masse* with an elastic bandage applied as rapidly and evenly as possible, and left while other general measures are applied to induce the organ to contract. This procedure is not serious, and the irritation of the organ inside and out will usually induce a vigorous muscular response. If all fails the organ is ready to be removed as the last resort.

Deutsche Medicinische Wochenschrift (Leipsic), November 23.

Influence of Infectious Diseases on Leucemia. E. Kormoczi.—A personal observation is compared with those on record, and the coincidence noted that in all, the specific tumors of leucemia diminish in size on the advent of an infectious disease, and that the white corpuscles decrease in number. These changes can be explained by the tissue-destroying action of the bacterial toxins. The decrease in the number of the white corpuscles may be accompanied by a qualitative alteration of the hematologic picture. This qualitative alteration seems to consist in an increase in the cells with polynuclear neutrophilous granulations while the rest of the granulated cells diminish in number. The ungranulated cells—lymphocytes—are not affected. These changes can be explained by the chemotactic action of the bacterial toxins. In some cases the chemotactic action preponderates over the tissue-destroying one, and then the qualitative alterations predominate. It thus can happen that with myelogenic leucemia the ordinary polynuclear cells increase, while the other granulated cells diminish, but as one of these alterations offsets the other, the absolute number of white corpuscles does not vary. With lymphemia, on the other hand, as the number of lymphocytes may not be materially diminished, while the number of polynuclear cells may be increased, the absolute number may not increase. These processes affect the red corpuscles much less, and only in certain severe cases does any important change occur, possibly the result of concomitant hemorrhages and possibly of hematocytolysis.

Importance of After-Treatment of Amputation Stumps. H. H. Hirsch.—The method which the writer has successfully practiced ensures fine weight-bearing stumps from the first and seems to be a distinct progress in this line. The subject remains in bed with the amputated limb raised, and once or twice a day the end of the stump is massaged for half an hour, at first dry and then with 2 per cent. salicylic acid in olive-oil, the gauze and cotton dressing replaced each time. A wooden box or frame is put in the bed, resting square against the foot of it, and for five to ten minutes every one or two hours the patient makes movements on the box with the stump as if stepping on it with the still raised and wrapped up stump. After each of these periods of exercise, and after the massage, the subject must swing the limb for two to four minutes, slowly and rhythmically flexing and stretching it in turn. Every evening the stump has a warm soda bath. When the stump is sufficiently advanced a small bag of bran is placed on a support and the subject stands on it with the stump, the sound foot on the floor and the stump on the soft bag, supporting himself by the head of the bed, and gradually leaning more and more on the stump until he can stand alone on it. This exercise is repeated for five to fifteen minutes every one or two hours, returning to bed in the intervals. When all these exercises can be easily carried out the artificial limb stump is provided. It differs from others by the fact that it supports the base of the stump alone and not the sides. It consists of three parts: a felt cover for the stump, the wooden leg, two iron strengthening bands reaching up on the felt in front, and plaster bandages to stiffen the soft felt and fasten it to the wood. No crutch nor cane is required. The advantages of this treatment are numerous and obvious. The general health benefits as much as the stump, which in four to eight weeks is ready for general use. The same treatment applies to fractures, amputated arms, etc., with slight modifications.

Gazetta degli Ospedale e. delle Cliniche (Milan), October 1.

Williamson's Reaction in Blood of Diabetics. G. Lucibelli.—"This reaction is more delicate, more pronounced, more lasting and earlier in the blood than in the urine of diabetics; it may be evident after the sugar has disappeared from the urine, and is pronounced when floridzin is administered until a transient anuria is produced. Even when urination commences again there is no sugar, as it is completely used up in the organism. This reaction is evident and complete in all forms of glycohemia, however induced." These conclusions are drawn from numerous tests and experiments on animals.

Nitrogenous Metabolism in Relation to Withdrawal of Blood. G. Ascoli.—Several experiences with patients and experiments on dogs are related which establish that the nitrogenous metabolism is unaffected by venesection—200 to 475 c.c. This confirms Maragliano's assertions in respect to the constant supply of blood *de luxe*, or beyond what is actually required for present needs.

Action of Heterogeneous Protoplasm. Carbone.—It has been established that the blood of animals inoculated repeatedly with heterogeneous blood or serum, becomes highly toxic for the animals from which the heterogeneous blood was derived. Bordet explains this by showing that the heterogeneous inoculations induce the production of a substance which destroys the red corpuscles *in vitro* and *in vivo*, causing the death of the animal from embolism or thrombosis. He has recently emphasized the surprising analogy between this antihematic and the antimicrobic sera. Carbone now reports experiments with heterogeneous tissue inoculated in the same way. Dogs were thus inoculated with small doses of liver and kidney cells to a total of 60 grams, but no special dissolving action could be discovered in the blood of the animals thus treated for either corpuscles, liver or kidney cells. By etherizing rabbits they were made to support enormous doses of dog serum thus prepared although normal dog serum is slightly toxic for the rabbit, and animals that had received as much as 60 grams of dog serum thus prepared showed no changes in the liver. The inoculations of heterogeneous tissue evidently fail to produce any special antisubstance in the blood, but they increase the phagocytic action immensely, as is evident when the liver cells are introduced into the peritoneum of dogs that had been previously injected in the same way, compared with control animals without this previous treatment. While the liver cells remain almost undisturbed in the latter, in the former they are promptly attacked by the leucocytes and absorbed. Increased phagocytic action and the production of what Carbone calls cellulolytic substances, are therefore the means by which the organism protects itself against invasion by heterogeneous tissue, and the phenomena of defense against micro-organisms only represent a special phase of this general law. The rapid distribution of inoculated blood throughout the organism leads to the formation of the antisubstance at a distance and everywhere, while the effect of the more solid tissue is restricted to its vicinity which is also observed with pathogenic bacteria. Those which do not contain a substance capable of passing readily into solution—the anthrax bacillus, for example—do not occasion the production of any soluble antisubstance in the serum.

Transient or Continuous Albuminuria with Lymphatic-Scrofulous Disposition. G. Graziani.—"Slight continuous albuminuria in these conditions is not only a sign of latent tuberculosis, but on account of the weakness of the kidneys, the slight lesion which maintains the albuminuria is liable to become aggravated without any actual tuberculous lesion of the organ."

Societies.

COMING MEETINGS.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.

Southern Surgical and Gynecological Association.

Twelfth Annual Meeting, New Orleans, La., Dec. 5, 6 and 7, 1899.

FIRST DAY—MORNING SESSION.

The Association met at the St. Charles Hotel, and was called to order by the President, Dr. Joseph Taber Johnson, of Washington, D. C.

An address of welcome was delivered by Dr. Henry Dickson Bruns on behalf of the local profession, which was responded to by President Johnson.

Dr. Ernest S. Lewis, Chairman of the Local Committee of Arrangements, made a brief report as to the work of the Association, entertainments, etc.

MYOMATOUS TUMOR OF EXTERNAL ILIAC VEIN WITH REPORT OF CASE.

Dr. A. M. Cartledge, Louisville, Ky., read the first paper. Myomatous tumors arising from the muscular coat of the veins constitute one of the rarest of pathologic curiosities, as a faithful search of the literature by the essayist discovered but two cases reported. A brief report of these was given. His own case occurred in a woman, aged 53 years. Five years ago she suffered from swelling of the left limb, extending from the foot to the hip; it came on gradually and the limb attained a considerable size; the swelling subsided in eight or ten months. She had pain at this time, in the left iliac region, low down. No enlargement was noticed. Two years ago she noticed a small lump just above Poupart's ligament on the left side, from which she suffered some pain. Within the last year pain has been much greater in the left iliac region, enlargement more distinct and very hard; latterly she has been losing much flesh, has slept poorly on account of pain, and has also suffered from accumulations of gas in the bowels. A diagnosis of carcinoma of the deep inguinal glands above Poupart's ligament was made, probably due to some primary, yet undiscoverable, carcinomatous lesion in the bowels or uterus. Exploration of the iliac tumor was advised for a more positive diagnosis, and removal, if found expedient. This was accepted and the operation performed on March 9, 1899.

Operation consisted of an incision beginning near the external abdominal ring, and running one inch above and parallel with Poupart's ligament, five inches in length. This came in contact with the tumor after opening the fascia of the external oblique muscle. The anterior part of the tumor occupied the inguinal canal; the round ligament was easily identified in front of the tumor, occupying the most fantastic relation to it, wound in and out around several lobules of the tumor; it was separated easily and pushed to the inner side. It was now seen that the tumor was not of glandular origin. By blunt dissection it was gradually freed from its upper and lower and external bed. The outer and deeper attachments were approached with great concern, as they were evidently in the closest relation with the external iliac vessels. Up to this time no vessels of importance had been encountered. It had been expected to run across the deep epigastric, but it nowhere appeared. Gentle and careful blunt dissection carried the pelvic peritoneum upward, no button-holing of the same occurring. After reaching the base and upper and outer part of the growth, the external iliac artery could be plainly felt entering the tumor. Search to the inner and posterior aspect of the artery failed to definitely demonstrate the vein; nothing more than a fibrous thickening could be made out, which was lost in the tumor substance. The point at which the external iliac artery entered the growth was about two inches above its lower termination. The apparent obliteration of the vein and its elimination as a factor in any surgical procedure affecting the circulation of the limb determined the essayist to ligate the artery one-half an inch above where it entered the growth. The fibrous remains representing the vein were similarly treated. The tumor was now separated from above downward, the deepest projection being disembedded from the obturator foramen; it now remained only attached to the vein and artery beneath Poupart's ligament. These were freed from the surrounding structures, by blunt dissection, and were ligated separately and the tumor removed. In cutting the vein below where it entered the growth, it was manifest that its lumen was almost obliterated, barely admitting a good-sized needle. The tumor was removed entire, with not a lobule broken, and passing through it and removed with it was 1¾ inches of the external iliac artery, and the same length of the nearly obliterated vein. The only hemorrhage of any account was from the obturator vein where it passes through the foramen; this was easily secured by ligation. The vessel was much enlarged, as a result of participating in a long-since-established collateral venous circulation. The upper portion of the incision was closed by tier sutures, the lower portion being left open, being occupied by a gauze drain which was placed down to the obturator foramen. The patient is progressing toward recovery.

Dr. William E. Parker, New Orleans, referred to the difficulty of diagnosticating tumors below the groin.

URETERECTOMY.

Dr. J. Wesley Bovee, Washington, D. C., followed. He said that surgery of the kidney was practically of recent date; and surgery of the ureter was the logical sequence to renal surgery. The paper considered essentially the subject of ureterectomy, an operation less than nine years old, one seldom indicated, but offering brilliant results. Dr. Bovée reported the following case:

Mr. J. J. T., 48 years of age, was first seen with Dr. E. Reisinger, of Washington, in August, 1898. Three years previously his left kidney had been removed for a renal abscess, and subsequently another operation had been done by the same surgeon for the remaining pus tracts and severe localized pain. He told the essayist that he had been an invalid constantly since before the first operation, and begged for relief. He had never been without pain and was frequently obliged to resort to morphia. He was much enfeebled, his pulse ranging from 110 to 130, and his temperature from 99 to 101.6. On the left anterior and lateral aspects of the abdomen, slightly below the level of the umbilicus, were two scars of the previous operations. One was so near the median line that he was inclined to think the nephrectomy had been made transperitoneally. A large hernia had occurred at this site. There were three sinus tracts in the left lumbar region, discharging a thin, watery pus. In spite of the general weakness of the patient he decided an exploration to be advisable, and accordingly, on Aug. 17, 1898, after free stimulation, he was anesthetized. With the assistance of Dr. Reisinger a careful exploration was made through an extraperitoneal incision, reaching from just above the level of the upper fistulous opening and in front of the left quadratus lumborum muscle to an inch inside the anterior superior iliac spine. By careful dissection and holding probes in the fistulæ the former location of the kidney was reached. Instead of the kidney a large amount of adipose tissue, containing many pus tracts and calculi and much cicatricial tissue, was found, and a little below it the upper end of the ureter surrounded by calculi and thickened pus. The ureter was about one inch in diameter and filled with cheesy pus and calculi. He resolved to remove the duct, and immediately extended the incision to the inguinal canal, keeping about one inch from Poupart's ligament. With considerable difficulty, but with very slight loss of blood, the ureter, in pieces, was removed to the bladder wall. The distended lumen ended abruptly, about half an inch from the bladder wall, this portion being a solid cord. The wound was closed with through-and-through silkworm gut sutures, a strip of iodoform gauze being passed to the lowest point of the pelvic wound and brought out at the lower end of the external incision, and another strip in the space formerly occupied by the kidney. The unusual atmospheric high temperature and humidity probably assisted in producing the fatal issue seventeen hours later.

Dr. Samuel E. Milliken, Dallas, Texas, called attention to a point in technique adopted by Kelly: Instead of making one incision, he leaves a bridge of abdominal wall, making the first incision from the twelfth rib down to the crest of the ilium in front of the lumbar muscles, with a second incision along the inguinal region. This enables the operator to expose the kidney, to make a thorough examination, and also to trace the ureter.

Dr. Bovee, in reply to Dr. Milliken, said there might be the advantage, in two short incisions, of having a less amount of tissue to cut across, as muscles, fascia, etc., over one large one, but he thought there was a drawback in having to dissect through a smaller space to loosen the ureter between the two incisions. Such an operation would require more time, which, in many instances, is a precious element. However, he was not disposed to criticize Dr. Kelly's method, because he had never tried it.

SERIOUS COMPLICATIONS FOLLOWING PASSAGE OF URETHRAL SOUND.

Dr. William E. Parker, New Orleans, read a paper with this title. He reported the case of a man with stricture of the urethra, who passed urine with difficulty. The first time a sound was passed, he had a chill, with a temperature of 105. After a week the sound was passed again, with no fever having occurred between the days of passage of the sound. In the meantime he had the man's urine examined, with a report showing the specific gravity to be 1020, .5 per cent. of albumin, no casts, pus, and acid reaction. After the passage of the sound the second time, the man had a urethral chill, suppression of urine, and died with uremic convulsions the following day, that is, the second day after the passage of the sound, although the usual precautions had been taken to prevent urethral chill. The autopsy showed that there was intense congestion of both kidneys, with pus in the pelvis, and in the calices of the left kidney.

Dr. William P. Nicholson, Atlanta, Ga., had seen a number of cases of severe chill following the introduction of sounds where all the necessary precautions had been taken, e. g., six cases of swelled testicle following the introduction of the sound, but had not seen a fatal case. In a book on the "Calamities of Surgery," Sir James Paget mentioned a case where the introduction of the catheter caused suppression of urine and death of the patient. The experience of genito-urinary surgeons would show, no matter how careful they were in sterilizing instruments, etc., in many cases, the apparent nervous connection between the organs would produce a severe chill and, in some cases, suppression of urine.

Dr. W. F. Parham, New Orleans, believed that post-mortem examinations would show, in cases where death had occurred after the passage of the urethral sound or catheter, some form of nephritic trouble, usually the interstitial. He recalled the case of a man on whom he operated for strangulated hernia, who had given no history of any renal trouble, yet died of interstitial nephritis, as verified by an autopsy.

Dr. Manning Simons, Charleston, S. C., had met with a number of cases in which the passage of the sound was followed by trouble. It is his routine practice, when a man presents himself for the first time, in whom he has to pass the sound, to administer 1 gr. of opium, and 10 gr. of quinin immediately after its passage, as a prophylactic measure against urethral chill and fever. He thought the cases should be divided into three classes: 1, those in whom the trouble is reflex from the nervous system; 2, those in whom urethritis is set up by unclean sounds, and, 3, those in whom there is serious disease of the kidney, but not discovered, preceding the use of sounds.

Dr. J. D. Bloom, New Orleans, narrated two fatal cases from the passage of the sound, in New Orleans, and these showed kidney lesions post-mortem.

Dr. F. W. McRae, Atlanta, Ga., reported a fatal case which occurred in the practice of the elder Westmoreland, while the speaker was a medical student. He had seen complications follow the introduction of the sound. During the last five or six years he had not introduced a sound, except in the direst emergency, without having the patient under observation for several days thereafter. His results had been better since paying particular attention to careful preparation of the patient, instruments, repeated examinations of the urine, etc.

GUNSHOT WOUNDS OF ABDOMEN.

Dr. H. H. Grant, Louisville, Ky., read this paper, which will be published in The Journal.

Dr. Hugh M. Taylor, Richmond, Va., said he had operated on three cases of gunshot wounds of the abdomen within the last two or three years. He laid stress on the utter hopelessness of cases until an operation was done. He was aware that arguments had been advanced by good men against surgical interference in many cases. It is not always easy to satisfy the attending physician, in the absence of serious symptoms, that an exploratory incision is imperative. Of the three cases narrated by him, one was saved.

Dr. William E. Parker was glad to note that the percentage of recoveries from operative interference in gunshot wounds of the abdomen is improving. Cases occurring in civil life should be operated on as soon as possible. In military life he has taken the stand that with the modern small-caliber bullet, as many cases will get well without operation in the field as with it. He mentioned a case operated on by the late Dr. Miles, in which there were fourteen intestinal perforations, which were closed, and the patient recovered.

Dr. Manning Simons had operated on twenty cases of gunshot wounds of the abdomen by laparotomy, and of this number he saved three. One was of the stomach, the operation having been done within a few hours after the occurrence. There were two perforations, one of the entrance, and one of the exit, the bullet having lodged in the muscles of the back. This patient, a boy, recovered and is well to-day. In one of the cases there were fifteen perforations of the bowel. In some he had resected as much as two feet of the small intestine.

Dr. Samuel E. Milliken had met with one case of gunshot wound of the abdomen in a child, 7 years of age, who had received the contents of a shotgun. He did a laparotomy, and the child recovered.

Dr. J. D. Bloom said the diagnosis of penetrating wounds of the abdominal viscera was very essential in deciding on an operation. He mentioned the case of a man who was brought into the Charity Hospital, where it was thought the peritoneal cavity had been penetrated, but laparotomy disclosed that it had not. He recalled a number of patients who got well where the operation was done within twenty-four to thirty-six hours after being shot.

Dr. W. F. Parham said it was difficult in many instances to determine the exact location of the wound in the abdomen; therefore, the surgeon should study the character of the wound itself, its direction, the circumstances connected with the shooting, distance of the combatants, etc.

Dr. W. E. B. Davis, Birmingham, Ala., said the question to be settled was whether every case of penetrating wound of the abdomen should be operated on. He believes every such case should be so treated. The surgeon should carefully examine the wound of entrance so as to determine, if possible, whether penetration has taken place. He condemned the Senn gas test, and said that the teachings of this eminent surgeon in regard to gunshot wounds of the abdomen were harmful, in that they had created a sentiment which made it exceedingly difficult in certain communities to operate on cases of penetrating wounds of the abdomen, because if the patient should die, the surgeon would be censured, and discredit cast on surgery. He and his brother (Dr. John D. S.), had operated on a number of cases of penetrating wounds of the abdomen from time to time.

Dr. F. W. McRae had seen and operated on five cases of gunshot wounds of the abdomen, at the Grady Hospital. The point of entrance of the bullet was above the umbilicus, the injury having been received when the patient was standing, and in every one of them there were numerous perforations of the hollow viscera. In military practice, he said, wounds were received by soldiers who had been fasting for a number of hours, and the intestines were empty; extravasation was not so likely to occur. On the other hand, in civil practice wounds were almost always received under conditions of more or less debauchery, when the stomach was loaded with whisky, beer, food, etc., consequently extravasation of the contents took place rapidly, and death was much more apt to occur. He considered the Senn gas test worse than useless, it being merely corroborative, not conclusive as to penetration of the viscera.

Dr. Grant, in closing, said he had enunciated a few surgical principles, and he hoped the Fellows would conclude that it was the duty of the surgeon to operate as much in a penetrating wound of the abdomen as it was in cases of strangulated hernia.

FIRST DAY—AFTERNOON SESSION.

INTUBATION APPARATUS.

Dr. Rudolph Matas, New Orleans, presented a paper in which he gave the history of pulmonary insufflation and artificial respiration in intrathoracic surgery by intubation of the larynx, exhibited an apparatus, and demonstrated its application. In summing up the peculiarities of the apparatus he had shown he called attention to the following points: The original O'Dwyer canula, while retaining its intralaryngeal portion unchanged, is modified so that it may be utilized as a respirator, as a tampon canula, as an anesthetizer, as a tractor and tongue, as an insufflator, and as an aspirator.

RECTO-VAGINAL FISTULA.

Dr. Lewis S. McMurtry, Louisville, Ky., read a paper on this subject. He said that, excluding cancer extending from the cervix uteri, rectovaginal fistula is due to traumatism, not to the compression of the tissue, as in vesico-vaginal septum, cicatrizing inferiorly, but leaving a perforation above where the septum is thin and permits contact of vaginal and rectal mucous membranes, thus uniting these membranes and making a permanent opening. Wounds made in instrumentation through the vagina, and the pressure of foreign bodies retained in the vagina sufficiently long to produce ulceration and necrosis, are among the rare causes of this lesion.

The most common site is in the lower portion of the vagina, just above the sphincter muscles, and at the point already indicated where the septum is thin and the mucous surfaces are in close proximity one to the other. The opening is usually very small, and the mucous membrane is reflected around like a fringe, making its detection more amenable to touch than to sight.

The method usually applied to the repair of vesico-vaginal fistula, whereby the edges are freshened in a funnel-shaped denudation, will rarely succeed in repairing a rectovaginal fistula. The action of the anal sphincter, the penetration of fecal matter, and the sparse layer of tissue prevent repair by this method. The divulsion of the sphincter muscle will not suffice to overcome this obstacle to success in the large proportion of cases. Extensive cicatricial deposit is another obstacle to repair by this simple procedure. The operation in consequence is resolved into a modified perineorraphy, by which the fistula is transformed into a complete tear of the perineum. The method of flap-splitting popularized by the late Lawson Tait is pre-eminently applicable to this procedure. By this method broad surfaces are supplied without loss of tissue, and permit gliding of the vaginal and rectal orifices of the fistula so as to interpose firm and healthy tissues. In exceptional cases, where the fistula is so low down as to be within the grasp of the sphincter, it will be best to divide the septum vertically, liberally freshening tne margins of the fistula, and suture the surfaces as in complete laceration of the perineum.

In a very limited class of cases, wherein the fistula is small and cicatricial deposit is not extensive, a simple denudation and suturing after divulsion of the sphincter ani muscle may succeed. The flap-splitting method already mentioned will be found most applicable and should be preferred for general application. Vertical division of the septum should be the first step of the operation in low fistulæ with extensive cicatricial deposit, and the operation is then resolved, after paring the edges of the fistula, into the operation for complete tear of the perineum. It will rarely be necessary to use buried sutures: when used these should be of catgut and should be introduced after the Lembert plan. As already stated, the flap-splitting operation of Tait has the greatest field of usefulness in this procedure.

The following case is of special interest, both on account of the unique cause of the fistula, and the consequent deduction that a very simple and common gynecological appliance is not without danger under certain circumstances.

Miss C. W., aged 31, never married, teacher, was the subject of a backward displacement of the uterus. In August, 1899, she applied to a physician for treatment, and a metallic pessary of the Hodge pattern was inserted. The pessary was placed on a Thursday by the physician who had referred the case to Dr. McMurtry, and the patient returned to her home, some thirty miles distant from the physician. On the second day the patient began to suffer pain, which increased day by day, and when examined by the physician on the Monday following the pessary was found protruding into the rectum and was removed per anum. When the patient was referred to him, on October 6, there was an opening in the rectovaginal septum just above the anal sphincter, of oval form, that would readily admit the end of the little finger. The operation consisted of divulsion of sphincter, separation of the vaginal mucous membrane, freshening the edges of the fistula and suturing with Lembert sutures of catgut the rectal portion of the fistula, gliding and suturing the vaginal mucous membrane. Union was prompt and perfect, and the patient is now quite well.

In the discussion, cases of rectovaginal fistula were reported by Drs. T. J. Crofford of Memphis, Tenn.; George Ben Johnston of Richmond, Va.; Geo. H. Noble of Atlanta, Ga.; W. D. Haggard, Jr., of Nashville, Tenn., and J. Wesley Bovée of Washington, D. C.

OSSIFIED UTERUS.

Dr. C. Jeff Miller of New Orleans, read the report of an interesting case of what he and others considered an ossified uterus. He presented the specimen.

(To be Continued.)

College of Physicians of Philadelphia.

Section on Otology and Laryngology, Nov. 15, 1899.

DEFECTIVE SPEECH IN CHILDREN WITH HYPERTROPHIED PHARYNGEAL TONSIL.

Dr. G. Hudson Makuen presented three children from 7 to 12 years of age, with defective speech of the form known as "decapitation," in which initial consonants, especially *s*, *c*, *k* and *t*, are omitted, making speech almost unintelligible. In each case there was enlarged pharyngeal tonsil; in one there was a bifid uvula. The latter peculiarity exists in about 15 per cent. of children with defective speech, a much larger proportion than is found generally. The former condition of hypertrophy of the glands in the vault of the pharynx in early childhood, when the patient is learning to talk, interferes with proper articulation and favors the formation of bad habits of speech. He recommended that in all cases where skilful training does not cause marked improvement in the faulty enunciation the nasopharynx should be examined for adenoids, and when found they should be removed preparatory to voice training.

A CASE OF SUSPECTED TYPHOID FEVER SHOWN TO BE ACUTE CATARRHAL OTITIS MEDIA WITHOUT PAIN.

Dr. Charles H. Burnett read a communication with this title. The patient, a boy 9 years of age, was brought to the Presbyterian Hospital as a case of typhoid fever, with a temperature of 104.4, which was temporarily reduced by the bath treatment and cold sponging, but was still 103.4 when Dr. Burnett was called in consultation two days later. The point of chief interest was the absence of pain in a case of middle ear inflammation, though attended by fever and delirium. The middle ear is often infected in cases of typhoid fever, the inflammation usually setting in in the third week. It is probably due to infection from the nasopharynx, owing to introduction of decomposing food or secretions from the posterior nares in the recumbent patient, and is due to specific typhoid infection. This complication of typhoid can be avoided by the use of antiseptic sprays and having the patient's head elevated when feeding him. The otitis may be overlooked in fatal brain lesion occurring after typhoid fever and death attributed to other causes.

Dr. B. A. Randall insisted on the importance of examination of the ears in cases of infectious disease. He thought that by the judicious use of the Politzer bag the same result might be gained as by incision in acute cases, as similar immediate relief is experienced by the patient by gentle inflation.

Dr. E. B. Gleason commented on the absence of pain in paracentesis of the ear-drum. When the drum remains nearly normal in appearance paracentesis is generally painless, but if the drumhead is greatly inflamed, red and swollen, this is not usually the case, and the patient may faint away with the pain, as occurred in a case of his recently, in spite of the preliminary use of cocain ointment—10 per cent., with lanolin. As regards treatment, incision is sufficient in cases when the disease is limited to the atrium, but when the attic is invaded neither incision of the membrane nor simple inflation will be sufficient, but an incision through Shrapnell's membrane into the attic will be required. In the case cited, which was probably due to simple catarrhal inflammation of the attic, the pain continued for several days after the incision, which was followed by a scanty discharge of bloody serum.

Dr. J. S. Gibb said that the case recalled one which he had seen some years ago; of a man who was brought to the Episcopal Hospital with many of the symptoms of typhoid; he had epistaxis and continued fever, so that there was great difficulty in diagnosis. It was found that he had deafness and pain in one ear, and, in a few days, there was a discharge of pus from one ear, followed by symptoms of mastoid irritation. At this time, Dr. Gibb was called to see the patient and found the mastoid cells involved in the inflammation. The operation of opening the mastoid and removing the purulent contents from the cells was followed by immediate relief and speedy recovery. It had been originally a case of middle-ear disease, but it was not until the mastoid cells were invaded, that the condition was noticed.

Dr. F. Woodbury, in illustration of the speaker's recommendation to clean the nasopharynx in cases of infectious disease, reported two cases of children suffering with la grippe, where, on examining the throat, the pharynx was seen to be filled with mucus. The temperature fell from 104 to 101 F. after syringing the nasopharynx with an alkaline solution and the children rapidly recovered.

Dr. C. H. Burnett said that he had never succeeded in relieving pain in these cases of middle ear inflammation by the use of the Politzer bag, but in several cases he had increased the pain and had therefore desisted from its use. In the case of the boy, who was delirious, it would not have been possible to use it. There would also be a risk of forcing infectious matters from the pharynx into the middle ear. He had never observed fainting after paracentesis of the ear drum, possibly because he does not operate with the patient sitting in an upright position. The children referred to, with the jelly-like mass of mucus in the pharynx, afforded a good illustration of the possible danger of infection of the ears, had inflation been attempted. He felt convinced that many cases of middle ear disease are due to the forcing of secretions from the pharynx into the Eustachian tube, chiefly by the habit of feeding patients while lying on their backs. We are conscious of the fact, when we have sore throat, that one of the first symptoms is the closing of the Eustachian tube, so that in swallowing we do not hear the ordinary clicking sound caused by exhausting the air in the middle ear. This is because Nature shuts off the ear from the inflamed part, and thus protects it. Cases have come to him like the following: a man, on getting up in the morning, having a cold in his head, blows his nose violently and is taken with a pain in the ear, due to forcing open the Eustachian tube, and driving some infectious matter into the middle ear. It takes a very little time for infection to cause inflammation.

Dr. E. B. Gleason stated that with regard to the use of the Politzer bag in their cases, it was entirely a matter of dosage. He has found that air, or chloroform vapor, blown into the middle ear with great gentleness almost always gives immediate relief from pain. If the Politzer bag is used forcibly it invariably increases the pain. It should be preceded by cleansing the pharynx and applying a little cocain solution to the Eustachian orifice. In purulent middle ear disease, when the pus has burrowed partly through the drumhead the incision is painless.

TREATMENT OF DEFLECTION OF NASAL SEPTUM, COMPLICATED BY TRAUMATIC DEFORMITY OF EXTERNAL BONY AND CARTILAGINOUS FRAMEWORK OF THE NOSE.

Dr. E. B. Gleason read a paper on this subject. He divided deformities of this character into: 1, lateral deflection, and 2, flattening, or "saddle-back nose." To relieve the accompanying stenosis in cases of deflection, it is not necessary to straighten the septum, but to make it parallel with, and equally distant from, each lateral wall. It is generally the ear on the side of the wide nostril that becomes affected, by extension of the atrophic rhinitis to the nasopharynx. Two cases were exhibited, operated on under cocain anesthesia, by the "V-shaped" incision through the septum with forcible flexion of the septal flap. Traumatic flattening of the bridge of the nose is generally due to fracture of the base of the nasal bones with dislocations from the nasal processes and depression of the nasal bones with rotation outward of their long axes. The most common lesion of the septum is a dislocation of the triangular cartilage from its bony attachment below. One case of this kind was shown with complete occlusion by a deviation of the septum involving only its anterior one-half inch. The stenosis was easily remedied by the "V-shaped" incision, but the external deformity required a more extensive operation under full anesthesia. Dr. Gleason's method of cocainization is to insert tampons of cotton wet with 4 per cent. cocain hydrochlorate solution for half an hour previous to operating, and, just before making the incision he goes over the outline of the cut with a piece of moist cotton on a probe, which he has dipped in a bottle of powdered cocain, thus obtaining absolute local anesthesia. The patients shown stated that the operation was painless and that they had attended to their usual avocations the day following.

Dr. B. A. Randall said that his observation agreed with the speaker, that the ear first affected generally corresponds with the side of nose admitting the larger quantity of air.

Dr. J. S. Gibb said that his observation also, as regards the side and ear affected, agreed with that of the speaker that the affected ear is on the side opposite the stenosis, the explanation being that the whole work of the nasal function is restricted to one side, the larger, and consequently the atrophic condition is greater on that side of the pharynx. He stated that straightening the septum very rarely had anything to do with correction of the external deviation, although great benefit may be derived from it, by giving proper breathing space in both chambers. One point is the cocainization of nasal chambers. He prefers a 10 per cent. solution of cocain applied from ten to to twelve minutes before operating.

Dr. F. Woodbury inquired whether the lecturer had observed any ill-effects from application of strong cocain solution to the middle turbinals. In one case he had observed great prostration with pallor and weak pulse, following a very brief application of a 4 per cent. solution. He thought that the contraction of blood-vessels observed in the upper chambers of the nose might be accompanied by a similar contraction in the blood-vessels of the anterior portion of the brain. He also asked whether Dr. Gleason uses the adrenal extract in connection with cocain, in order to prevent hemorrhage.

Dr. J. S. Gibb said that he had seen two cases of cocain poisoning at the Polyclinic, not syncope, but cocain intoxication. They were so alarming as to make him timorous as to the use of that drug in certain individuals. Just at that time eucain was introduced, and he used it, and could see no difference between its effects and cocain in the nasal chambers, except that eucain is not followed by the danger of cocain intoxication. He has not abandoned cocain, but he uses it more for the larynx than the nose, because it is less dangerous in there than in the nasal chambers, and less irritating than eucain.

Dr. E. B. Gleason said that in ten years' experience he had only seen one patient with poisonous effects from cocain, and that one had taken two headache powders, containing phenacetin, before coming to his office. He applied cocoain to the turbinals and the woman became unconscious, and required warm applications, injections of strychnin, and stimulants to bring her around. This was a case of rhinitis and not one of operation. He applies the cocain on a pledget of cotton, with the excess of solution wiped off; in this way none drops into the pharynx, to be swallowed. In using a spray a considerable quantity is swallowed. The field of operation is packed with cotton saturated with 4 per cent. cocain. He has never seen any one become unconscious, or faint, as the result of cocain *before* the operation. Some of the cases of "cocain poisoning" are simply cases of syncope following the operation.

Dr. B. A. Randall reported a case in which the opposite effects from those described were obtained from cocain. In a child, with swollen turbinals, there was as much excitement as from any of the mydriatics. A very small quantity only was applied, and the child became perfectly wild with delirium, until after midnight. Many of the so-called poisoning cases from cocain are not really toxic results, but are merely due to collapse from mental excitement.

Cleveland Medical Society.

Nov. 24, 1899.

EOSINOPHILE CELLS.

Dr. W. T. Howard read a paper entitled "Observations on the Origin and Distribution of Coarsely Granular Eosinophile Cells in the Human Body." He made a preliminary report of researches made by himself in association with Dr. R. G. Perkins. Their work was based on the study of sections from 850 specimens derived from operation and on the organ from 115 necropsies. In the operative material these cells were found in larger or smaller numbers in the tissues, or in both the tissues and blood-vessels, in 85 cases—10 per cent. Most of these were inflammatory cases—salpingitis, ovarian abscess, appendicitis, osteomyelitis, etc.—while some were tumors—carcinoma, sarcoma and nasal polyps. In the necropsy material these cells occurred in apparently normal organs in 6 cases, and in organs showing various pathologic changes in 21. They were present in the spleen in chronic interstitial splenitis, in the kidney in acute and chronic interstitial nephritis—5 cases—in the lung in 1 case of pneumonia, in the gastro-intestinal tract, in 4 cases, including acute and chronic gastritis and dysentery, and in the muscle lesions of 1 of fatal trichinosis. In a number they could trace the origin of eosinophiles from plasma-cells, and they regard the plasma-cell as the chief source of origin of these cells. They think that the coarsely granular eosinophiles play a more important part in inflammatory and other lesions than is commonly believed.

Dr. O. B. Campbell asked whether the eosinophile cells are friendly to the organism, or are pathologic.

Dr. C. F. Hoover said that, on examining a number of cases, he had been struck by the fact that the eosinophile cells in the circulation vary in number within wide limits. In his case of trichinosis, reported by Dr. Howard, although the myositis involved all of the skeletal muscles, and although the muscular tissue must have been loaded with eosinophile cells, yet those in the circulation were not increased in number. He asked what were the conditions that would retain those cells in the muscles.

Dr. W. T. Howard said that the eosinophile cells are always present in the body. It is only lately that these cells have been much studied and, while at first they were thought to be diagnostic of leukemia, later study indicates that there is no special relation between the diseased organs and the cells. They are formed in a number of organs, especially in the bone-marrow and in the alimentary tract. While the general belief is that they are formed from the ordinary neutrophile cells, his own studies have shown that the chief cell from which the eosinophile cell is derived is the plasma-cell, which in turn has its origin from the lymphocyte and from the hyaline leucocyte. These cells play a much more important part in inflammation than is generally supposed. In Dr. Hoover's case of trichinosis, the eosinophile cells were undoubtedly formed in the muscle lesion because they were found in that location, but not in the blood-vessels. In the five cases of trichinosis that recovered, and in which the eosinophile cells were found in the blood-vessels, it is probable that the cells were formed in the muscles, and after the process was cured, the cells being no longer of any use at the seat of disease, passed into the blood. The transition from plasma-cells to eosinophile cells occurs by the following stages: 1, the hyaline, non-granular plasma-cell; 2, protoplasm, which normally should not stain with eosin, stains quite deeply; 3, in other cells we find very fine granulations that will stain with eosin; 4, cells with large granules; 5, cells with the nuclei of typical plasma-cells surrounded by coarse granules. With the development of the granules the cell enlarges and the nucleus changes until it resembles the ordinary polymorphous nucleus.

TONSIL ENUCLEATION.

Dr. R. D. Fry read a paper entitled "Bloodless Enucleation of the Tonsils Under Local Anesthesia." He first reported some research work done for him by Dr. B. G. Hannum, that showed the tonsils in animals to possess only mucus-secreting function, and no especial function in man. The relative weight of tonsils to body weight is eight times greater in animals than in man, and in animals there are more abundant mucous glands. He advised total enucleation of diseased tonsils. The tonsil is not cut, but shelled out with a blunt hook, and the vessels are severed with a snare. Enucleation is done under cocain anesthesia and the hemostatic effect of desiccated suprarenal. It is the only thorough, safe, painless, bloodless, esthetic operation, resulting in a normal throat with restored function. He has performed forty operations with eminently satisfactory results.

Dr. Hunter Robb asked if the essayist had noted symptoms of cocain poisoning in any of the cases on which he had operated in this manner.

Dr. J. M. Ingersoll thought that in comparatively few cases was it necessary to entirely enucleate the tonsils. Usually he partially dissects out the tonsil, and then surrounds it with a galvanocautery snare, which leaves a small stump. He is surprised that general surgeons do not make more use of the extract of suprarenal capsule. In operations on the tonsils and nose, the application of this preparation almost entirely prevents hemorrhage.

Dr. C. J. Aldrich spoke of the tonsils as a source of tubercular infection, and said that when there are enlarged glands in the cervical region, it is safe to conclude that there is tubercular infection, and the tonsils should be removed at once. During the past few years he has observed a number of cases of chorea associated with enlarged cervical glands, and he reported a case that had suffered nine years from chorea, in which enucleation of the tonsils followed by less than four months' treatment with the same remedies that had previously been used brought about a complete recovery. He thought this observation gives strength to the theory that chorea is an infectious disease.

Dr. W. T. Howard said that the fact that the tonsil does not contain digestive ferments does not prove that it is useless to the body, especially as it is well known that this organ plays a part in the formation of leucocytes. Students of immunity believe that the tonsils, along with the other collections of lymphoid tissue along the gastro-intestinal tract, not only defend the body against invading bacteria but also aid in the production of immunity. It is quite remarkable to think that simple hypertrophy of the tonsils is simply a reaction against irritants in the form of bacteria.

Dr. R. J. Wenner, noting a recently reported case of death from hemorrhage following complete enucleation of the tonsils, said that it was a mistake to conclude that the operation is entirely free from danger. He also said that it was a wise precaution to palpate the tonsil previous to any operation on it, with the view of determining the possible existence of an anomalous course of the carotid artery, such as has sometimes been found. He considers it rarely necessary to remove all of the tonsillar tissue.

Dr. A. J. Ochsner, Chicago, expressed the belief that the enlarged tonsil is one of the most mischievous structures to be found in the body, as it is practically certain, when diseased, to become filled with tubercle bacilli and give rise to secondary infection of the lymph-glands and finally the lungs. Whenever there is infection of the cervical glands a recurrence after the removal of the diseased ones will depend to fully as great an extent on the removal of the tonsil and adenoids, as the removal of the infected glands themselves. His results with the different methods of removing the tonsils have been exactly the same, and he thought that any way to which the operator became most accustomed was the best for him. He prefers the Gunn tonsillotome.

Dr. R. D. Fry, in closing, said that he had been very careful in the use of cocain, and that while most of his cases showed some increase in pulse and some other effects from the drug, there had never been any untoward results. He does not use the galvanocautery to remove the tonsils, for fear of a slough, which is said to form after that procedure. The cold-wire snare is better. Enucleation has the advantage that hemorrhage is largely prevented by the opportunity afforded to apply torsion to each of the bleeding vessels. He has seen cases in which chorea was associated with enlarged tonsils and lymph-glands, and thinks the small size of the tonsil precludes it being very active in the manufacture of leucocytes. The increase in nutrition of patients whose diseased tonsils have been removed is a very strong argument in favor of operation. The further fact that the diseased tonsil may be the source of infection proves that great benefit may be derived from its removal.

REMOVAL OF HAIRY NEVUS.

Dr. F. E. Bunts reported a case, the patient having a large hairy mole covering almost the entire side of the face and causing great disfigurement. The operation for its removal was done in three stages, removing about one-third of the growth at each sitting, the operation extending over a period of about three years. The denudation was carried down to the subcutaneous tissue, in order to avoid new growth of hair, and skin-grafts were taken from her thigh to cover the denuded area. No contractures took place and the appearance of the face, as shown by a photograph, shows entire absence of the growth with an almost smooth surface replacing it. The object of the separation of the operations by such long intervals was to prevent cicatricial contraction about the eye and mouth.

Dr. C. A. Hamann noted in the photograph that the area of distribution of the nevus corresponded very closely to the distribution of the second division of the fifth nerve. This observation has been made in other cases and is very interesting.

FOREIGN BODY IN SKULL.

Dr. George W. Crile reported a case he had operated on, Dec. 28, 1896, for the removal of a brass belt-lacer that had penetrated the skull just above the right ear. Following its removal there was marked infection of the brain, with septic meningitis and great protrusion of brain substance through the opening in the skull. On the theory that the pressure was the most serious symptom, he kept cutting away the edges of the trephined wound until the opening in the skull was over two inches long. This allowed the brain to bulge freely, and it was covered with bichlorid dressing of the strength of 1 to 10000. A considerable amount of brain tissue was lost. The patient had a chill and fever and the pulse was at first slow, afterward very rapid. After the wound had finally healed, the brain returning within the cranial cavity, the patient had epileptic fits of the Jacksonian type, along with complete hemiplegia of the left side. By means of massage and electricity the patient had recovered the use of the leg and side of the face, but not of the arm.

Dr. C. J. Aldrich, noting the Jacksonian type of epilepsy, suggested that a second operation is warranted. The protrusion of the brain in this case was not a hernia cerebri, as it took place too quickly and was the result only of intense congestion and infection, and was not a fungating granulation.

NEEDLE NEAR POUPART'S LIGAMENT.

Dr. C. L. Webster reported a case from which he had removed a small needle from just below Poupart's ligament, the interesting fact in the history of the case being that there had been several attacks of inflammation of the bowels for ten or twelve years previously. He had seen one other case of supposed appendicitis which had been occurring when a needle came through the abdominal wall.

Wayne County Medical Society.

Detroit, Mich., Nov. 23, 1899.

RIGIDITY OF MATERNAL SOFT PARTS DURING LABOR.

Dr. J. J. Mulheron read a paper on the above subject. As to the rigidity of the os uteri he said, three varieties are recognized, the anatomic, the pathologic and the spasmodic. The first is most frequently met with in aged primiparæ, though it may complicate the labor of very young women, and seems to be due to a hypertrophy of the transverse fibers of the cervix, thus causing them to offer undue resistance to the action of the longitudinal fibers of the body of the uterus. Digital touch conveys an impression of inelasticity of the os uteri, which persists in spite of powerful uterine contractions. The pathologic variety is produced by cicatrices, growths and malignant deposits. Multiparæ who have suffered lacerations of the cervix are most frequently the victims of such a complication in labor. Possibly, also, we have in sexual abuse a not uncommon cause of pathologic rigidity of the cervix. Spasmodic rigidity is to be regarded as a functional disorder—a form of perverted uterine action. Its onset is usually sudden and may occur at any time during labor. Suddenly, while the woman is apparently doing well, she begins to show signs of uneasiness and irritability, and for the first time cries: "Oh, Doctor, I can never stand this!" The examining finger now causes pain and its tip detects a change in the parturient canal. The vagina is perhaps drier and the mucous membrane feels hot. The circumference of the os uteri feels thin, tense and unyielding. The object of treatment is to promote relaxation and prevent rupture. In the case of anatomic rigidity a masterly inactivity on the part of the accoucher is all that is required. A hypodermic of morphin, occasionally administered, will make the woman's sufferings tolerable. In the treatment of the pathologic rigidity of the os, when interference becomes necessary, the only remedy is the knife. When a case of spasmodic rigidity is met with the first thing to be done is to restore the uterus to its proper axis. If this fails to relieve the spasm, a hypodermatic injection of morphin and atropin serves the double service of relieving the spasm and quieting the general nervous irritability. In obstinate cases an enema of a pint of warm water holding in solution 20 gr. of chloral hydrate should be used. Chloroform anesthesia has been used in lieu of this, but is not so effective. Regarding the rigidity of the perineum, the Doctor does not believe any rule for the prevention of the laceration of this structure is of any value, and some are positively harmful. When the rigidity is such that the attending physician sees that the perineum can not be saved, the only correct treatment is by episiotomy. The point selected should be the middle of the lower quadrant of the circular outlet produced by the advancing head. The incision should be made with a blunt-pointed bistoury introduced on the flat with the index finger as a guide. The incision, in the selected location, differs from the spontaneous tear, not only in the particular that it is regular and clean-cut, but also that its edges naturally approximate each other instead of gaping apart. Episiotomy is unquestionably one of the most important of obstetric procedures, and its technic should be mastered by every one who assumes to deliver women.

Maryland Public Health Association.

INFECTION FROM AIR-PASSAGES.

Dr. Wirt A. Duvall, Baltimore, at the late meeting of this Association held in that city, exhibited an apparatus for the prevention of infection by the air-passages. It is designed to protect physicians in examinations of patients affected with infectious diseases, and consists of a thin plate of glass which is held in front of the face by an appropriate framework strapped about the head, such as holds the head mirror in ophthalmoscopy. Through the glass the throat of the patient is readily inspected without risk of poisonous germs being breathed or coughed into the face and mouth. The apparatus may be sterilized after use. A committee was appointed to go before the next legislature to press the subject of a burial permit law and other reforms in sanitation, urged by the Association.

MEMORIAL TO DR. ROHÉ.

The question of a suitable memorial to the late Dr. George H. Rohé who, at the time of his death, was president of the Association, was discussed. It is probable that the memorial will take the form of a tablet and a collection of books on hygiene, which will most likely, as does the Frick collection, form a branch of the library of the Medical and Chirurgical Faculty. An effort to raise $500 here is being made in Baltimore, and it is hoped this amount will be increased to the desired proportions by contributions of Dr. Rohé's friends outside of the state.

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SATURDAY, DECEMBER 16, 1899.

TREATMENT OF DIPHTHERIA WITH ANTITOXIN.

While there has been little published in the medical journals recently on this subject it must not be supposed that the value of antitoxin in the treatment of diphtheria is not just as much appreciated as when so much was being written. As we publish this week a symposium on diphtheria, it seems an appropriate occasion to refer to the matter more fully in these columns.

Five years have now elapsed since the more or less general adoption of the antitoxin treatment of diphtheria, and the results have in every way justified the earlier anticipations. Wherever this truly specific remedy has been properly employed on any considerable scale, the previous mortality has been cut in two; and the testimony to this effect has come, not from one observer, nor from one community, nor from one part of the world, but it is well-nigh universal and unanimous. It must, however, be borne in mind that the antitoxin is both curative and prophylactic *only* against diphtheria, and experience has taught that in order to obtain the best results the treatment must be instituted early. The requirements are thus exceedingly simple, but such as they are they must be complied with strictly, and in no half-hearted nor uncertain manner. The dangers are comparatively insignificant and transitory in nature, and are confined principally to cutaneous rashes, articular swelling and pain, albuminuria, elevation of temperature, local irritation at the site of injury, and possibly slight glandular enlargement. It can be conceived that excessive doses of the antitoxin may cause some disorganization of the blood, but this has been observed but rarely, and is attributable rather to the large amount of serum necessarily required, and not to the antitoxic agents themselves. It is no longer believed that the death of the child of Professor Langerhans, of Berlin, a few years ago, following an injection of antitoxin, was due directly to this, as other conditions were present at least equally if not more competent to bring about the unfortunate result.

For immunizing purposes from 500 to 1500, and for curative purposes from 1500 to 4000 antitoxin-units should be injected, in accordance with the age of the patients and other circumstances. The employment of the larger dosages is no longer attended with difficulty, as concentrated sera are now readily obtainable. The injection should be made into the subcutaneous connective tissue with a properly sterilized syringe, suitable care being taken to avoid a blood-vessel. The surface of the abdomen, the lumbar region, and the external aspect of the thighs are good situations for the injection. Administration by the mouth has also been proposed, but absorption by this route is slower, and the results are necessarily less speedy and less trustworthy.

In connection with the discussion of diphtheria, before the Section on State Medicine, at the last meeting of the American Medical Association, and the publication of the papers read on that occasion, as above, we beg to present some of the more recent facts. As Munn (p. 1522), the efficient and energetic health commissioner of Denver, points out, the mortality from diphtheria in that city has been reduced from 28.7 per cent. in 1894, before the antitoxin was employed, to 8.8 per cent. in 1898 (3.5 per cent. in the cases treated with antitoxin, and 16.6 per cent. in those in which the antitoxin was not employed); and from 36.4 per cent. in the six years preceding the use of the antitoxin to 11.5 per cent. in the four years during which the antitoxin was employed. The contrast is all the more striking when it is pointed out that among the cases treated during the last four years with the antitoxin the mortality was only 4.9 per cent., while among those not so treated during the same period, the mortality was 18.6 per cent.

In the city of Chicago there were in the ten years from 1886 to 1895, before the antitoxin was generally used, 14,175 deaths from diphtheria, a yearly average therefore, of 1417; while in the three years from 1896 to 1898, the number of deaths was 2552, a yearly average therefore, of 851—thus, an annual saving of 566 lives. Among 4071 cases treated with the antitoxin during three and a half years the mortality was less than 7 per cent., as compared with a previous mortality of nearly 50 per cent.

According to Biggs[1], the mortality among 3073 cases of diphtheria treated in New York City, with the antitoxin, from Jan. 1, 1895, to Jan. 1, 1899, was 13.9 per cent., as compared with a mortality of 29 per cent. in the year 1894. A similar reduction in mortality is also reported from San Francisco.

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[1] Medical News, July 22, 1899.

Statistics prepared by Goodall[2], show that the mortality from diphtheria in London has fallen, since the introduction of the antitoxin-treatment in 1894, from 24.7 per cent. to 17.4 per cent. The reduction was greater in the hospitals under the control of the Asylums Board, where formerly the mortality had been greater, than in the city at large. Recovery occurred in 72 per cent. of laryngeal cases, as compared with 33 per cent. formerly—in 80 per cent. not operated on, as compared with 45 per cent. formerly, and in 63 per cent. in which tracheotomy was required, as compared with 28 per cent. formerly. Besides, laryngeal and pulmonary complications were less common in cases treated with the antitoxin than otherwise.

The mortality from diphtheria in Berlin has decreased from 27 per cent. in 1894 to 15 per cent. in 1897. It has been halved also in Paris, and in a large number of German cities from which statistics have been collected. Thus, among 44,631 cases of diphtheria, treated with the antitoxin during 1895, 1896, and the first three months of 1897, the mortality was 14.6 per cent., while among 6507 treated without the antitoxin the mortality was 34 per cent.

The foregoing figures should suffice to convince the most skeptical, if any there yet be. The good results from the treatment of diphtheria with the antitoxin are obtained not alone in the hospitals, but also in private practice, and they are appreciable not merely in the mortality-reduction, but also in the general course of the disease. By the timely and intelligent employment of the antitoxin, epidemics can be controlled by prophylactic injections, severe cases are rendered mild, laryngeal complications are less common, and when they occur are less severe and more amenable to surgical treatment. Paralysis, paradoxically, appears to be a more common sequel in cases of diphtheria treated with the antitoxin, but this is probably due to the fact that recovery takes place in cases so severe that death would otherwise occur. In a word, no more powerful resource than the antitoxin of diphtheria has been added to the armamentarium of the physician since the discovery and introduction of vaccination for smallpox.

INTERCELLULAR STRUGGLES AND ANTICELLULAR SERUMS.

The animal organism is regarded as a state, composed of various, more or less independent elements, which have subordinated their own interests in order to accomplish functions of vital importance. But the citizens of this cellular state do not always live in perfect harmony. There is in reality a sharp struggle among the cells for the most favorable conditions of nourishment and multiplication. Sometimes the cells devour each other and enter upon more extensive intercellular hostilities, concerning which but little in reality is known. Interesting observations are being made on the fate of diverse cells of animals when introduced experimentally into the bodies of other animals either of the same or of different species, and probably some light has already been thrown upon the nature and the mechanism of intercellular struggles. Metchnikoff, in an interesting contribution to this question[1], gives the results of experiments on the absorption of spermatozoa, and of red blood-corpuscles, made with a view to determining the rôle of phagocytes and the changes which occur in the organism in cellular resorption.

Spermatozoa, homologous or foreign, introduced into the abdominal cavity of guinea-pigs, are promptly taken up by large phagocytic cells while still possessed of ameboid movement and presumably still alive. The intracellular digestion of spermatozoa is succeeded by the appearance, in the peritoneal fluid and in the serum of the blood, of substances which arrest the movements and agglutinate the spermatozoa. Landsteiner[2] and Pitfield[3] have also described the agglutination of spermatozoa by foreign serum. The agglutination and solution of the red blood-corpuscles of one animal by the fluids of another animal of a different species have been extensively studied of late, because of the light these phenomena cast upon analogous processes in bacterial infection and immunity (Bordet, v. Dungern, Ehrlich and Morgenroth, etc.). Corresponding to the hemolytic ferments, which are present, or produced, in these conditions, antihemolysins have also been shown to develop under certain circumstances. Heretofore the leucocytes have not been regarded as playing any direct rôle in the destruction of foreign red corpuscles, but Metchnikoff shows quite conclusively that when the nucleated blood-discs of the goose are injected into the guinea-pig, the large mononuclear leucocytes take up and eventually dissolve the corpuscles, nucleus and all. Certain facts also indicate that the agglutinating and hemolytic substances (for the corpuscles of the goose), which then appear in the serum of the guinea-pig, are closely connected with excretory processes on part of the phagocytes.

These and similar observations led Metchnikoff to conceive the idea that it would be possible to obtain serums against all kinds of cellular elements. Landsteiner has previously expressed a like notion. And Metchnikoff has already succeeded in demonstrating the development of antileucocytic serum, after the resorption by its macrophages of particles of the spleen of rats inserted subcutaneously in the guinea-pig, and also after similar experiments with the mesenteric lymphatic glands of rabbits. These antileucocytic serums are specific in their action, that is, they destroy only the leucocytes of the rat and of the rabbit. The fertile mind of Metchnikoff suggests a number of uses to which anticellular serums may be put in the study of the physiology of organs whose functions are now obscure, and of the reactions of the organism to microbes.

Probably, interesting studies with these methods will soon appear. Metchnikoff, impressed with the rôle of mononuclear phagocytes in the resorption of morphologic elements introduced into the organism, also believes that macrophages take a decidedly active part in the atrophic and cirrhotic processes, which, though of such common occurrence, yet constitute an unsolved problem in pathology. These processes are all characterized by a replacement of more highly differentiated cells by connective tissue associated with an accumulation of monocular cells. At present it is assumed that the cells, which disappear and whose place is taken by fibrous tissue, have been rendered useless by various causes, especially of a toxic nature, and that the fibrosis is a secondary process of a teleologic kind. Metchnikoff advances a new theory in regard to these changes, to the effect that they are the result of intercellular hostilities, in which the large phagocytes, without consideration or pity, devour those cells, which can not resist the voracity of the phagocytes, no matter whether the cells in question are useful to the organism or not. Should this genial theory prevail, practical medicine may be called on to endeavor to maintain peace and harmony in the organism when disrupted by the preponderance of certain cells, such as the macrophages, and it may be that the anticellular serums referred to will find practical application in a series of maladies which now baffle our therapy. At all events, the suggestion of intercellular struggles of this sort, and of their possible rôle in pathologic processes, is a welcome one, which may lead to renewed and fruitful study of the atrophic and cirrhotic processes.

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[2] British Medical Journal, Feb. 4, 1899.

[1] Am. de l'Inst. Pasteur, 1899, xiii, 737.

[2] Cbl. f. Bakt., 1899. [3] Lancet, 1899.

THE NURSE'S RESPONSIBILITY.

The surgical nurse is a very important person in an operation, not possibly as important as she may sometimes think she is, but still one that has a very useful and responsible function to perform. The fact is suggested by a case that is reported of the not unheard of accident of a sponge being inadvertently left in a woman's abdomen after the operation. A large mass of testimony was collected from high surgical authorities to the effect that the counting and care of the sponges is the especial duty of the assisting nurse, and that accidents such as the one mentioned should be properly credited to her neglect. This may be true enough, but to the public generally the surgeon is to blame for whatever goes wrong in the operation, notwithstanding that in this as in other minor details he can not always give the due attention to insure their proper execution. Hence the importance of a reliable and thoroughly careful nurse, and her value when found. It too often happens that nurses do not fully appreciate their responsibilities, and their liability to failure in them. If a little more stress were laid on this point in the addresses to training-school graduates, at the expense perhaps of some of the conventional glorification of the nursing profession, it would be no loss. We have had experience enough to know that nurses, estimable and indispensable as they are, are not impeccable angels but mortal women with various feminine and epicene failings that call for eternal vigilance on the part of the professional employers. These remarks are not intended as disparaging to the class, but simply as a wholesome reminder of these human imperfections and the constant need that they should be met and as far as possible overcome.

TRANSMISSION OF TUBERCULOSIS.

It will scarcely be contended that the air-passages, though perhaps the most important, constitute the sole channel through which tuberculosis is acquired. Volland[1] calls renewed attention to an additional mode of transmission, which is applicable both to tuberculosis as such and also to scrofulosis. He points out that the latter affection is essentially a disorder of childhood, not appearing until after the first, and prevailing largely until the fifth year, thereafter diminishing in frequency; and he relates this distribution of the disease to infection conveyed through the hands soiled in creeping and playing on the floor, and the like. The scrofulosis thus acquired may become manifest, or it may remain latent, perhaps to break out later in life, under suitable conditions, as tuberculosis. Whether this explanation is applicable to a large number of cases or not, the prophylactic measures that it suggests should not be ignored or neglected, namely, that the greatest care should be taken to avoid the soiling of floors and other surfaces on which children are permitted or are likely to play and creep, and always to keep the children's hands as clean as possible.

THE ANTIVIVISECTION BILL IN CONGRESS.

The antivivisectionists have, with the reassembling of Congress, renewed their agitation, and their spokesman in the Senate, Senator Gallinger, has again introduced their bill (see our "Miscellany" columns, this week) to regulate experiments in the District of Columbia. While this is speciously drawn and apparently innocent in most of its provisions, its real object is to satisfy the ultimate purpose of the zoöphiles as an entering wedge in the effort to prohibit vivisection altogether. Any one who has read their literature can readily see that no halfway measures will satisfy them, and that this is only a part of a general movement to enact prohibitory laws throughout the United States. As drawn up, the bill, if passed, could seriously embarrass the experimental work of the U. S. Agricultural Department as well as that of the Army and Navy and Marine-Hospital medical laboratories, and for this reason, as well as because it is only a step to something still more radical it should be opposed by the united medical profession and all others who regard human life and welfare. Zoöphilism, of which such attempted legislation as this is a manifestation, is a curious phenomenon, as has often been pointed out, perfectly compatible with the grossest inhumanity, and it would be no credit to us if it were permitted to thus carry out its unphilanthropic schemes. The interests of the animals they profess to love so much would be themselves sacrificed if the advocates of this bill should succeed in crippling the work of the Agricultural Bureau of Animal Industry, but they are themselves not open to even this rational argument. It is well, however, to use this fact in the better education of the public as to the real status of the question. As regards the interests of humanity there ought to be no need of argument. There should be a united opposition of the whole medical profession against the proposed measure, and if we use our influence as we should, it must fail to become a law.

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[1] Berlin. Klin. Woch., Nov. 20, 1899, p. 1031.

CLUB DOCTORING AGAIN.

It is announced from Boston, that a number of "leading physicians" have organized a "Union Medical Service Company," which for a small monthly fee will entitle the subscriber to medical and surgical services whenever required. Branch offices are to be opened in every city in the United States and Canada, and the State of Massachusetts has already been portioned out into districts with one or more physicians to each, who are to be at the beck and call of the patrons of the society day and night, and to obtain their remuneration through the company. This grand scheme of exploiting the medical profession is announced in the daily press as a great advance, the item announcing it being headed "For the Workers," as if appealing especially to the much overworked labor vote, and the privilege of doctors' calls *ad libitum,* it is assumed, will do away with the trifling with serious disorders by home remedies; hence there will be an improved public health and a lowered death-rate. It, therefore, goes before the public as a highly philanthropic and benevolent project in which only the doctors are to be sacrificed for the public good, while the "company of leading physicians" will, it may be, reap a reward for their good works in appreciated stocks and dividends. There are possibilities enough of evil in this design to arouse the profession, and it will be of interest to see how far the profession and the public—especially the former—will be taken in.

A FALSE STEP.

The students of the medical department of the Iowa State University propose, it is said, to petition the legislature to modify the law that requires them to pass a state examination before being allowed to practice medicine. They argue that the university examinations for their degrees are practically state examinations, and that graduates from their institution should be excepted from the operation of the law. It is to be hoped that no such modification will be made. The arguments they bring for it are such as should have no weight with the legislature. The statement made in their petition, as reported, that adjacent states recognize the diploma while Iowa does not, is a misrepresentation in that it implies that such recognition is general, and not confined to states that have not as yet made their practice laws as rigid as those of Iowa. The introduction of such a plea should condemn the whole movement on the principle of *falsus in uno falsus in omnibus.* The medical department of the University of Iowa stands, in the light of this petition, in the position of a school that turns out inferior graduates who can not pass the state examinations, and it will, therefore, win no prestige from this performance. If its faculty members are wise, they will do what they can to suppress or to counteract this depreciation of their institution. It is certainly not a credit to the teachers if the students unduly fear state examinations, and it will be a still greater pity if the state legislature is thereby induced to undo good work already done.

DRUGGISTS' RESPONSIBILITIES.

A suit was recently brought against a Pittsburg druggist[1] by a woman who asked $20,000 damage for the death of her daughter, which she claimed was due to a headache powder sold by the defendant. The judge non-suited the case, holding that the druggist was not guilty of any negligence and incurred no responsibility for the effects of the drug, even admitting that they were such as were claimed. The case caused much local comment and the question is asked: Who is responsible if the vendor is not, and what protection has the public against accidents from dangerous drugs not sold as such, but put out as harmless remedies for self-prescription and general use? The general opinion among wholesale and retail dealers in drugs appears to be, according to interviews reported in the Pittsburg papers, that the seller can not be held responsible, at least not for the dispensing of unbroken packages bearing the U. S. revenue stamps, as is the case with the copyrighted and proprietary remedies. Since this suit was begun, some of the Pittsburg druggists have affixed a label disclaiming responsibility on the packages of proprietary remedies, and they are interested to learn whether by so doing they have been in any way transgressing the federal law in regard to stamped articles. The court's action seems to place responsibility, if anywhere, farther back than the seller, but the case may be carried to a higher court, and the questions it involved are still far from being fully settled. As far as the public is concerned it has one safeguard, easy to apply, that is, not to buy such preparations. In this country, more than in any other, people are supposed to look out for themselves, and heretofore this has seemed to be the practical if not the legal principle in these matters. Now that the questions have been raised, it may be that we shall obtain some decisions or ultimately some legislation for the public protection against dangerous, or possibly dangerous, popular remedies, secret or otherwise.

BOVINE AND HUMAN TUBERCULOSIS.

The laws passed by some state legislatures, requiring the slaughter of tuberculous cattle, are, it appears likely, to be attacked in the coming sessions. The dairy and cattle trade interests, it is said, are already organizing to call for their revision, as it is claimed that as they exist at present they sometimes cause undue hardship and expense to the farmers and others. A correspondent in one of the leading agricultural journals calls for an investigation of tuberculosis in country and especially dairy districts, to show if possible what are the actual facts in regard to the transmission of the disease from cattle to man. It must be proved, he claims, that there is to be found at least as large a percentage of tuberculous cases, known to be such, from the consumption of milk, butter, cheese, etc., in the farming districts as is credited to this cause in city statistics, before we can positively say the peril of bovine tuberculosis is real. It would seem that it ought to be easy to get these facts from country practitioners who should know their patients better even than does the city doctor, but so far there has been a dearth of information from these sources. A careful and unprejudiced investigation in our large asylums, allowing duly for the special character of their population, would also be of use. At least one high veterinary authority has expressed more than a doubt as to the possibility of this transmission, and it can not be said that the evidence is yet fully satisfactory to any impartial observer, however fully he may be convinced of its occurrence. It is claimed, on the other hand, that on dairy farms where every opportunity for the acquirement of tuberculosis by inhalation or ingestion ought to exist according to the accepted notions, the disorder is rare, and some even claim, almost unknown. A thorough study of the subject in all its aspects and possibilities is certainly desirable. Consumption is especially a disease of the cities, we know, and it is mostly studied there; it would be well if we also had an equally thorough study of its incidence in the rural districts where this question of its causation ought to be more easily elucidated.

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[1] Journal, December 9, p. 1500.

Medical News.

Mankato, Minn., has just dedicated a new hospital—St. Joseph's—costing $50,000.

Professor Bose of Giessen has resigned the chair of surgery, on account of poor health.

Dr. Yersin has been sent to Java on a special scientific mission, by the Indo-Chinese government.

Dr. Jacob E. Shadle and wife, St. Paul, Minn., sailed from New York, December 9, to spend the winter in Egypt.

Dr. Walter Lester Carr will assume the editorial management of the *Archives of Pediatrics,* with its January number.

A woman in Omaha, Neb., has brought suit for divorce on the ground that her husband insisted on treating their sick child by "Christian Science."

The prosector of the chair of pathologic anatomy at Moscow, Dr. Kischenski, has been sent by the university to study the museums and institutes of his specialty in the large cities of Europe, for a year.

The medical department of the Western Reserve University is recipient of $12,000, from H. N. Hanna, for an endowment of a chair in medical jurisprudence.

The hygienic reports of Paris, for the year 1898, record 1500 persons having been bitten by dogs supposed to have been mad. Eight of these persons died.

Oleomargarin, it is said, is being sold by the wholesale in different parts of New Jersey. Several tons of the article have been seized, and this has made dealers very careful.

Mrs. Kate Goodman, Reading, Pa., was bitten on the hand by a fox terrier about nine weeks ago. The wound was cauterized, but December 1, she became violent and death occurred December 4, from hydrophobia.

The Faculty of Physicians and Surgeons of Glasgow was founded in November, 1559, the charter being granted by James VI, and its tercentenary was celebrated by a dinner on November 29.

While the football season is not yet closed, eleven deaths are already recorded; some have been ruined for life, physically, and minor injuries too numerous to mention have occurred. And yet the interest in the game is greater than ever.

The British bark *Ravenscourt,* which sailed from Panama eighty days ago, arrived in Port Townsend, Wash., December 7. Yellow fever broke out among the crew a few days after the vessel sailed and three sailors died. The vessel is now in quarantine.

Dr. Archangelski of St. Petersburg left his entire fortune to the national Society for the Preservation of the Health of the People, to start an endowment to "assist young physicians along their first steps in their difficult career."

According to the *St. Petersburg Med. Woch.,* 9200 roubles have been appropriated by the Government to defray the expense of publishing and forwarding the report of the Moscow International Medical Congress.

A public-spirited man of Bombay, India, has given $1,000,000 for the establishment of a university in that city. A committee has been appointed to look for a desirable location for the buildings. The name now proposed for the institution is the Indian University of Research.

The Paris *Gazette Medicale* draws a comparison humiliating for France between the suppression of the sale of liquor in the buffets along the line of the Southern Pacific and the newly inaugurated bars on the trains of the lines to the west of Paris, owned and run by the Government.

At the next meeting of the British Medical Association, commencing July 31, 1900, Dr. Pye-Smith will deliver the address in medicine, Mr. Frederick Treves that in surgery, and Dr. W. J. Smyly, at one time master of the Rotunda Hospitals, Dublin, that in obstetric medicine.

A committee of the Frederick City (Md.) Hospital Association is visiting Washington, Baltimore and other cities for the purpose of inspecting hospitals, and to examine plans and cost of construction. The Association has raised a large sum for providing Frederick City with a much needed hospital.

The Vienna medical *Doctorencollegium* celebrated the five hundredth anniversary of its foundation, December 10, with a banquet, medals and a jubilee sketch of its history. "Its benevolent institutions represent a capital of 3,500,000 gulden, and it is in every respect a blessing to the profession.

The new sewage farms around Paris have contaminated wells in the district, and the residents are clamoring for damages and reparation in the shape of a pure water-supply to be installed at the city's expense. The engineers, however, claim that the trouble is only temporary, until the lay of the land is fully ascertained, when appropriate drainage will divert the water from the well supply, as in the longer established sewage farms.

Dr. Kossinski, professor of surgery at Warsaw, and Dr. Solmann, who has a private surgical-gynecologic hospital, were sued for damages—42,000 roubles—by the family of a patient who had died from the effects of a forceps left in her abdomen after an operation. The lower court acquitted the defendants, but an appeal to a higher court has resulted in the condemnation of Dr. Solmann to a penalty of 920 roubles and severe censure by the authorities. Professor Kossinski was acquitted.

It is said that Dr. Jay W. Seaver, physical director of Yale College, has completed his examinations of the students of the freshman class, and finds the average weight 137.9 pounds; the average height 5 feet 8.2 inches, and the average lung capacity 263 cubic inches.

The new quarters of the Paris Students' Association, 43 rue des Ecoles, were formally opened by the President of the Republic, the deans of the various faculties and other notables, November 27. Medicine, law, belles lettres, etc., each has a separate reading room and library. The association was founded sixteen years ago. The inaugural exercises were followed by a "gala matinee" in the amphitheater of the Sorbonne across the way, and a banquet in the evening.

An osteopath in Lincoln, Neb., has just been convicted of practicing medicine without a license. He has appealed to the supreme court, claiming that he does not practice medicine in his treatment. The decision in the case will be watched for with special interest, for the Nebraska law is very explicit in defining the meaning of the words "practicing medicine," and the methods of the osteopaths are distinctly given as coming under the meaning of the words.

It is reported that a Camden, N. J. girl, 16 years of age, at the time suffering from a burning fever, wandered through the streets the night of December 3, without being able to receive treatment from any of the hospitals. Finally she was found by the wife of the overseer of the poor, who cared for her. The overseer visited three hospitals with the girl, but was unable to gain her admission. She was probably suffering with scarlet fever, or from rötheln.

The state insane asylum, near Harrisburg, Pa., is said to be again in an overcrowded condition, and some of the patients are compelled to sleep on the floor. The room ordinarily accommodates 700 persons, but at the present time there are 900 being cared for. Applications are being made daily and there are a large number on the waiting list. It is thought that the condition of overcrowding has resulted from taking the insane patients from the county almshouses several years ago and placing them in state insane asylums.

Relative to a comment on the existence of smallpox in Topeka, Kan., in a previous issue of the Journal (see December 2, p. 1437), we are now informed by a physician of that city that last summer he had a case of their so-called "chicken-pox" or "Cuban itch," and has since endeavored to get the city physician and secretary of the State Board of Health to quarantine, but failed until about one week ago, when quarantine was commenced, he having in the meantime a case under treatment in Potwin, the best resident portion of Topeka.

The creation of a section of urinary surgery in the coming international congress is attributed to the efforts of Professor Guyon of Paris. This section will meet at his clinic at the Hôpital Necker. A committee of several of his students, both French and foreign, proposes to present him with a souvenir medal on the occasion of the opening of the congress. All the friends of Professor Guyon are invited to co-operate and a subscription has been opened. The minimum accepted is twenty-five francs. This entitles the subscriber to a bronze or silver duplicate of the medal.

A colored "voodoo doctor," who for some time has been practicing his tenets in Camden, N. J., was put on trial for manslaughter during the past week. In a raid of the man's house by the police, there was found a weird collection of things, including animal remains, herbs, charms and medicines. The case attracted attention because it was learned that a woman who had gone there for treatment had died in the house, and an examination disclosed that death had been due to hemorrhage, and that there were evidences of criminal malpractice. The man was sentenced to eight years in the penitentiary and to pay a fine of $1,000.

The practice of medicine in Calabria, Italy, has its drawbacks. In November, in the commune of Cataugaro, a highly respected physician, Dr. Giorgio Vaccaro, was assassinated, and his brother, coming to his relief, was also shot. At Borgia, in the same region, and about the same time, Dr. Pietro Chiriac was stabbed by a patient he was attending. The Rome correspondent of the *Lancet,* who gives these facts, remarks that Calabria shows that in the case of a professor considered all the world over as a "sacro-Sanct" against bodily aggression she can "go one better" than the worst of the semicivilized or wholly savage of her sister commmunities.

The Illinois Supreme Court has denied the motion for a rehearing in the case of the Independent Medical College vs. the People. This ends the proceedings, and the late diploma-mill dies "unwept, unhonored, and unsung." Future legal proceedings, interesting it may be, will be looked for in sections where its diplomas have been sown, in some of them very numerously. The Michigan State Board of Examiners has a problem on its hands regarding them, and they are liable to crop up elsewhere or wherever there is a legal loophole available for their holders to utilize. It is to be hoped that this final settlement of the concern in Illinois may similarly affect matters elsewhere.

The Easton (Pa.) court has issued an order to the effect that hereafter all claims for board and maintenance of patients from Northampton County, who are cared for by the state institutions for the insane, must be settled at the expense of the relatives. The law directs that the following be made liable for these bills: father, mother, grandfather, grandmother, children or grandchildren in case any of them possess property. This law was passed in 1836 but has not recently been enforced. It is said that the above county alone paid, last year, the sum of $11,192.82 for the support of indigent insane and that fully one-half of this sum should have been borne by relatives.

According to *Semaine Med.,* the new regulations in regard to the transportation of persons with infectious diseases in Germany go into effect January 1. A special car must be engaged for persons with smallpox, petechial typhus, diphtheria, scarlet fever, cholera, or lepra. A separate compartment, with water-closet attached, must be engaged by persons with measles, whooping-cough or dysentery. Transportation of persons with the plague is absolutely forbidden. If persons are merely suspected of the above diseases, their transportation will depend on the medical certificate which they may produce. Persons with a visible affection, or who for other reasons are liable to annoy other passengers, need not be transported unless they pay the price of a special compartment, and unless such a compartment can be placed at their disposal on the train.

A parent applied to have his children admitted to the public schools in Philadelphia, but refused to comply with the law in regard to compulsory vaccination.

Superintendent Brooks cited the act of the assembly prohibiting the admittance of children to school unless vaccinated, and further served notice on him that in compliance with the compulsory education act he must send his children to school. The matter was then referred to the Committee on Elementary Schools for decision, but up to this time no action has been taken in the matter.

Typhoid Fever in Milk.—It is said that County Medical Examiner, D. G. C. Gable, York, Pa., has recently made an investigation of the outbreak of typhoid fever occurring at that place, and out of 21 cases investigated, 20 have been found to have derived the infection through a spring three miles north of the city. This spring is located on the farm of a dairyman, and the cases so far reported have nearly all occurred among the patrons of his route. Since April 14, typhoid fever has been prevalent among the members of his family, and his father, mother and two children have succumbed to the disease. An investigation showed that the dejecta had been thrown near the spring. The milk of this dairyman has been condemned until the State Board of Health takes action in the matter.

Dr. R. Harvey Reed Resigns.—A change in the management of the Wyoming General Hospital of Rock Springs, Wyo., will take place the first of the year, owing to the resignation of Dr. R. Harvey Reed as medical director, to take effect Dec. 31, 1899. In addition to Dr. Reed's resignation, the chief nurse and chief house surgeon have already resigned, and we understand that several of the pupil nurses will sever their connection with the institution at that time. Being a state institution it is under the conrol of a political board, with headquarters at Cheyenne. Up to Oct. 16, 1897, at which time Dr. Reed assumed charge of the institution, 272 patients had been treated during the three years of its existence. During his first year's administration 313 were admitted and treated in addition to the eight carried over from the previous administration. During his second year's service 378 patients were admitted and treated, including 28 from the previous year, making a total of 699 treated in the institution during the two years of his administration as against 272 in the three years prior.

The Plague.—Dr. Vital Brazil, a prominent bacteriologist of S. Paolo, has been stricken with the plague, while attending patients at the isolation hospital at Santos. The Brazil authorities have enlarged the Vaccine Institute for the production of antiplague serum and sent Dr. P. Affonso to Europe to study the best methods of preparation and commence work in three months. France has refused their request for further supplies of the serum on account of possible needs nearer home. A bounty of ten cents is paid at Santos for every rat killed. In his official report on the examination of the plague stricken ship, *J. W. Taylor*, Passed Assistant Surgeon Geddings states that the cultures made from the two patients recovering from the disease yielded negative results as regards the appreciable development of specific microbes, but afterward gave rise to the disease in guinea-pigs. As indicated by the official reports, there has been little change in the plague situation since last week. The marine-hospital service reports the death, at Trieste, Austria, of a sailor on an Ottoman liner. Ten deaths are reported at Asuncion, Paraguay, October 7-24. During the week ended November 25, there were 16 new cases and 5 deaths at Oporto. Mauritius reported 37 new cases and 39 deaths. No new cases are reported from Egypt. On account of the proximity of the pest to their borders, the Russian authorities have formally installed a laboratory for research and work on the plague, on an island at Cronstadt, and forbidden all other laboratories and private investigators any work of the kind.

Mrs. Eddy, the Aggressor.—According to the press, Mrs. Mary Baker Eddy, the patron saint of the "Christian Science" order, has scored her first point in the case of Woodbury vs. Eddy, in which a suit for libel is pending. In this instance Mrs. Eddy, through her counsel, was able to prove that the plaintiff had in advance of the date of the trial sent out certain documents which would prejudice the case in the minds of the jury and in contempt of the court in Boston. This charge was admitted to be correct by Mrs. Woodbury, who subsequently threw herself on the mercy of the court, stating that what had been done was done through ignorance and for which an apology was offered. Should this proceeding be kept up all during the trial, in which $150,000 has been claimed as a propitiation for certain remarks made by Mrs. Eddy, the trial will end in a grand fiasco, and doubtless will be further encouraged under the claim of persecution. Whether one is willing to admit it or not, the "Christian Science" movement is gaining in numbers, and its standard is being planted in a way which seems damaging to the morals of its followers. During the past week notice was sent to the press of the dedication of a church in New York, erected by that sect at a cost of $500,000. At the dedication it was said a hymn was sung composed by Mrs. Eddy, and later extracts were read from her book, "Science and Health. The movement seems well organized, and through the energy of the *Medical News* it has been found that back of it all lies an astute lawyer whose advice is sought on doubtful points so that it may be a long time before the strong arm of the law can overcome such a widespread hallucination.

Baltimore.

Charles L. Reese, Ph.D., has been elected lecturer on chemistry at the Woman's Medical College.

A sale of fancy articles, confectionery and flowers was held the 7th and 8th for the benefit of the Hospital for Crippled Children.

Dr. William R. McKnew had a shoulder blade broken and received other injuries by having his buggy struck by a streetcar on the 7th inst.

AN OLD MEDICAL SCHOOL.

The first medical school and dissecting-room building in the city has been discovered and photographed. It is a long narrow two-story brick structure, and was built by Dr. Charles Frederick Wiesenthal, physician to Frederick the Great, who came to Baltimore in 1755, when this was a small village. He died here June 1, 1789. The building was probably erected shortly after his arrival. We know of its use about 1770. Dr. Wiesenthal was an accomplished and learned physician who jealously maintained the dignity and honor of the Baltimore profession. He was termed the "Sydenham of Baltimore," and may be considered the father of the profession here. His services during the Revolution were of inestimable value to Maryland. After his death the school was continued by his son, Andrew, until his death in 1798, when it was sold.

New Orleans.

Dr. C. Faget, Jr., has removed with his family to the Island of San Domingo, where he purposes practicing medicine.

Dr. E. A. Robin, recently married to Miss Mary Titus, is absent from the city on a wedding trip to the eastern cities.

Dr. T. F. Richardson, assistant surgeon in the U. S. Marine-

Hospital Service, has been transferred from the Nuevitas, Cuba, quarantine station to that on Reedy Island.

Much interest has been aroused by the anticipated coming of the coffee-laden steamer, *Willowdene*, from the plague-infected port of Santos in Brazil. At a meeting of the Louisiana State Board of Health, the 8th, measures were taken for due precautions. It is to be hoped that, with the help of the New Orleans Board of Health, the co-operation of which does not seem to have been invited, every effort will be made to keep this little known but dreaded scourge out of our country.

The Southern Surgical and Gynecological Association met in this city last week. The Association was entertained by the local profession at a lunch at the Boston Club, Tuesday noon, and at the French Opera, Tuesday evening. On Wednesday afternoon the members were treated to a boat ride, with lunch on the boat, and a visit to the Milliken plantation.

Chicago.

The examination for externes of Michael Reese Hospital has been postponed until April, 1900.

The receipts of the bazaar held for the purpose of furnishing the new Wesley Hospital are estimated at $10,000.

Only one case of smallpox has been discovered this week although the city has been greatly exposed during the past few weeks.

At a meeting of the citizens' committee for the erection of a hospital for the treatment of consumptives it was reported that nearly $10,000 had been subscribed.

The Illinois State Board of Health has begun a crusade against the keepers of lodging houses for violation of the law to prevent the overcrowding of these establishments. Twelve arrests have been made.

HEALTH OF STUDENTS.

An examination at the Normal School shows that out of 300 young women students there are only sixty-seven who are in perfect health. Many are reported to be suffering from disabilities that seriously interfere with their work and efficiency. This condition is regarded by the authorities as due to the excessive amount of study with minimum recreation. It has been suggested as a sanitary measure that the number of studies be materially reduced.

PUBLIC BATHS.

A movement has been inaugurated by residents of the west side toward the establishment of a free bath-house for the poor of that section of the city. The sum of $5000 has been collected for the purchase of a site and the city council will be asked to appropriate a sufficient sum to erect a building and furnish suitable apparatus. It is estimated that $1200 will be required. Several members of the council favor the plan of making the bath a part of the public schools of that locality. The bath could be used by the children during the day and by the working people during morning and evening hours.

MORTALITY STATISTICS.

According to the weekly bulletin of the health department, the mortality for the past week was 10 less than that of the week preceding. This was 47 in excess of the corresponding week of last year. The causes of death which show an increased mortality are: diphtheria, scarlet fever, cancer, pneumonia, convulsions and suicide. There were 7 more deaths from diphtheria and 4 more from scarlet fever, as compared with the preceding week. "Influenza," says the bulletin, "is beginning to be mentioned more frequently as a complicating cause, mostly associated with acute respiratory affections. The excess of births over deaths was 202, there being 618 births reported during the week.

Cincinnati.

Warrants have been sworn out by the Food Commissioner for the arrest of eight persons charged with selling oleomargarin.

The monthly meeting of the directors of Longview Insane Hospital was held December 7. There are 1076 patients in the hospital.

The monthly report of the city infirmary shows that there were 891 inmates in that institution, November 30; 7 died during the month; 22 were discharged and 42 were admitted.

Murrill Flenner, who is studying medicine at the Miami Medical College, has received an appointment as guard of the American Buildings, Paris Exposition. He will continue his studies in Europe.

At the regular monthly meeting of the Board of Trustees of the Cincinnati Hospital, Dr. Frank B. Cross was elected hematologist, in place of Dr. S. P. Kramer, resigned. The trustees have extended the term for nurses of the training school from two to three years.

The first case of caisson disease that has occurred in the building of the new water-works plant was reported at the City Hospital, December 8. The victim had been working in a shaft 120 feet below the ground surface. The peculiar type from which he suffered was a paraplegia.

Owing to the crowded condition of the Asylum for Epileptics, at Gallipolis, the disposition of this class of patients is a serious question as the new law in effect in June provides that no epileptics shall be sent to insane asylums or infirmaries.

HEALTH REPORT.

According to the health department the epidemic of measles has practically disappeared. There were but 22 new cases and no deaths last week. There was a decrease of 44 in the number of contagious diseases reported, as compared with the corresponding week of last year. There were 28 deaths as against 31 for the same week in 1898 and 25 deaths from consumption with 8 new cases reported.

Columbus.

The State Board of Health has arranged with sixty-seven physicians of the state to address the farmers' institutes this winter, on the subject of the prevention of tuberculosis in cattle.

SUIT FOR DAMAGES.

As a sequel to the controversy existing between Dr. J. F. Baldwin of this city and the Ohio Medical University, Dr. Baldwin has been sued for $10,000 by the heirs of Mrs. Nancy Taylor, who it is claimed died of blood-poisoning induced from leaving a sponge in the abdominal cavity during an operation performed by the defendant. This case was unfortunately at the time given prominent newspaper notoriety. Dr. Baldwin, while admitting that a sponge was overlooked, claimed that it was one of the nurse's sole duties to keep count of the sponges, and that when asked whether all the sponges had been removed she had replied in the affirmative. It seems that back of all this, as has been published throughout the country, is the animosity of the people of the Ohio University against Dr. Baldwin, because he had endeavored to unite that institution to the Ohio State University. For this he was compelled to resign his chancellorship in the Ohio Medical University. As a result of the controversy over Mrs. Taylor's death, he has had also to resign the chair of gynecology. To complicate matters still more the operation was performed at the Protestant Hospital, which is connected with the Ohio State University.

Philadelphia.

At the meeting of the Contemporary Club, December 12, Dr. Charles W. Dulles gave the address on medicine.

The resident and ex-resident physicians of the Philadelphia Hospital held their annual dinner recently. The toastmaster for the evening was Dr. J. B. Walker.

The closing of two public schools, for fumigation on account of the large number of cases of diphtheria, has been ordered by the Bureau of Health.

The Board of Directors of the National Export Exposition, just concluded in this city, recently paid a just tribute to the memory of Dr. William Pepper, whose foresight in part made the exposition a reality.

Drs. Joseph P. Tunis and R. S. T. Mitcheson, who have for a long time been assistant demonstrators of anatomy in the University of Pennsylvania, have resigned. Their successors have not yet been chosen.

Rev. Russell Conwell has announced that $5000, asked for from the last legislature for the support of the Samaritan Hospital and not allowed, has been procured by members of Grace Church and friends of the hospital.

Members of the Philadelphia Board of Health, by a recent order, stated that all vessels from Santos, Brazil, must be held in quarantine at Marcus Hook. This measure has been deemed expedient in view of the existence of the plague at Santos. The principal product now being watched is coffee, which is imported in bags.

An ordinance has been passed authorizing the mayor to accept, on behalf of the city mission chapel, property occupied by the Municipal Hospital, Twenty-second and Huntingdon Streets. The donor was Dr. George Woodward. The property was given with the stipulation that it should be used for hospital purposes, and if not it was to revert to himself or his heirs.

The Presbyterian Hospital has just opened the Thomas Hoge Ward for patients. It was completed last year, but owing to the large number of soldiers treated before its entire completion, its dedication was postponed until this time. The new addition will be devoted to neurologic cases, and be in charge of Drs. S. Weir Mitchell, John K. Mitchell and Guy Hinsdale.

HOME FOR CRIPPLED CHILDREN.

Mr. P. A. B. Widener, a citizen of this city, has announced his intention of giving the city $2,000,000, for the establishment of a home for crippled children. The home will also include a hospital, will be open to all without distinction in creed, color, sex or nationality. It will be located at Logan and, when completed, be known as the Widener Industrial Home for Crippled Children. A tract of land covering 36 acres is being bargained for, on which to erect the buildings.

CHILDREN'S HOSPITAL.

The effort of the public-spirited citizens of Germantown to establish a children's hospital has so far practically failed. After having tried diligently by means of donation boxes, entertainments and subscriptions, $1,022.65 has been secured, and while the expense of advertising and other measures has been quite heavy, there stills remains on hand $354.24. It has been suggested that this sum be donated to the children's ward of the Germantown Hospital, and that the matter of erecting a new hospital be dropped.

New York City.

A young Armenian woman has arrived in New York, and avowed her intention to study medicine. She has been a pupil in her native land, of one of the American missionaries.

A new German hospital has been formally opened in that part of Brooklyn Borough formerly known as Williamsburgh. At the opening ceremony a check for $1,000 was received from an unknown contributor. The financial outlook of the hospital is most satisfactory, there being a surplus on hand sufficient to meet the expenses for the next two years.

HARLEM HOSPITAL.

Earnest efforts are being made to have the present Harlem Hospital, located in East 120th Street, enlarged, or replaced with a building more in accord with the needs of the locality. While it has only thirty-nine beds, more demands were made on this hospital during the past year than on any other in the city, except Bellevue. Besides this it is claimed that the building is overrun with vermin, and in a badly dilapidated condition.

WIRE SWALLOWED IN BREAD.

At the autopsy of a woman 48 years of age, at St. Peter's Hospital, Brooklyn, where she had been under treatment for ten days, her case proving a very puzzling one, it was found that death was due to a puncture of the lungs by a short piece of fine wire. The wire appears to have been imbedded in a large piece of bread which she accidentally swallowed, and an X-ray examination after her admission to the hospital gave no results.

CONSOLIDATION OF CHARITY SOCIETIES.

Under the advocacy of John P. Faure, much interest has been awakened in charitable circles in the proposal to consolidate the two thousand charitable societies of the city into one gigantic trust. So far the plan has not taken definite shape, but it is likely that the idea is to follow the system in use in Liverpool, where all the moneys for charitable purposes are collected through one organization, thus effecting an enormous saving. Among those who indorse the scheme most enthusiastically is Theodore Sutro, president of the Medical and Legal Relief Society.

CONDITION OF THE POOR.

The fifty-sixth annual report of the Association for Improving the Condition of the Poor, just issued, shows that the fresh air work of the Association during the past summer was more extensive than ever before: 15,317 persons were taken on the day excursions, of which there are five each week, while 1490 women and children were kept at the association's summer home on Coney Island, for an average stay of ten days each. The People's Baths, where baths of various kinds are furnished at a nominal rate, show a credit balance in their operating expenses since they were opened. The number of baths taken was 120,347, an increase of 5000 over the previous year.

"CURE" FOR CONSUMPTION.

Crotte's electric cure for pulmonary tuberculosis is now under trial in St. Luke's Hospital, and the results are being critically watched by the medical staff of the hospital. The management deprecated the fact that the public had learned of these experiments, as they had been undertaken in private with a view to determining the scientific value of the treatment without awakening false hopes in the hearts of the many unfortunate victims of this disease. Crotte claims that three-fourths of the early cases can be cured, and probably 30 per cent. of those somewhat more advanced at the time of coming under the treatment. [Our correspondent does not state whether the medical staff of St. Luke's knows about the method adopted by Crotte, to have his schemes endorsed by the American Medical Association at Columbus, and the failure of his endeavor to "work" the people of the West since then.—Ed.]

REPORT OF HEALTH DEPARTMENT.

The report of the Health Department for the quarter ending June 30 has just been received by the mayor. The estimated population of the city at that time was: Manhattan Borough, 1,953,569; the Bronx, 163,537; Brooklyn, 1,231,543; Queens, 134,139; Richmond, 67,260; total, 3,550,053. The death-rate for the three months was 18.16 per 1000; the marriage-rate, 9.12, and the birth-rate, 20.07. The lowest death-rate occurred in the Borough of Richmond, being only 15.17, while in Manhattan it was 17.45. Of the 16,119 deaths reported, more than one-half occurred in the tenements, and only one-fourth represented those in dwellings, in the streets or hotels, or by accident. There were 160 suicides during this period, 44 of whom used carbolic acid to end their lives. The Board vaccinated 38,555 persons, disinfected 16,571 rooms and removed to hospitals 612 persons suffering from contagious diseases.

Correspondence.

Canada.

(From Our Regular Correspondent.)

Toronto, Dec. 9, 1899.

THE ANNUAL MEDICAL DINNERS IN TORONTO.

The students of the Toronto School of Medicine held their thirteenth annual banquet, December 7. Dr. Roddick, Montreal, was the guest of the evening, and a goodly portion of his address was taken up with the discussion of Dominion registration. Trinity Medical College held its twenty-second annual banquet on the following evening.

ADULTERATION OF FOODSTUFFS.

From reports of deaths occurring as the direct result of the consumption of canned or tinned goods, the Department of Inland Revenue, Ottawa, has deemed it advisable to issue a circular letter to the entire profession of medicine in the Dominion of Canada with a schedule of questions to be answered in regard to illness or deaths from such causes. The consumption of these goods is largely on the increase, and the Dominion authorities deem it essentially necessary to safeguard the health of consumers. The questions to be answered are as follows: 1. Have any cases of illness, apparently attributable to the use of tinned foods, come under your notice within recent years? 2. Please state the number of such cases and the period of your observation. 3. How many have terminated fatally? 4. Have you judged the symptoms to point to metallic or to ptomain poisoning? 5. If the latter, was the defect owing to the imperfect sealing of the tins or to slight change or decomposition of the contents on account of age? 6. Have you any suggestions to make with a view to bettering existing conditions as regards tinned foodstuffs?

MAJOR-GENERAL HUTTON AMONG THE MEDS.

The Commander of the Canadian Militia accompanied by Surgeon-General Neilson recently visited Toronto and addressed a mass meeting of the medical students of Trinity and Toronto schools of medicine and their respective staffs, on the establishment of bearer companies and field-hospitals among the students at the respective medical colleges of the Dominion. Heretofore this branch of militia has not been organized, and it was for that purpose that he took occasion to visit them and secure their co-operation in the scheme. Surgeon-General Neilson explained bearer companies and field-hospitals. He spoke of the whole organization as a military medical council with seventy-two officers. From that body the officers would be selected for the field-hospitals and bearer companies. In times of war a bearer company would consist of ninety-two officers and men and forty-five horses. Their duty would be to carry the wounded off the field of battle. The field-hospitals would consist of forty-five officers and men who looked after the wounded. The former would render first aid on the battlefield; the latter, attend to their wounds on proper surgical lines. The organization was commenced. The General has already formed one each of these among the students of McGill.

DOCTORS, DRUGGISTS AND DEPARTMENTALS.

The *Canadian Druggist* is advocating the departmental plan of doing business in drug stores. After long years of bitter and consistent opposition to departmental stores, it is somewhat staggering to have this suggestion emanating from such a source. Time was when no word was sufficiently condemnatory of doctors who participated in the illicit connection with the drug departments of these establishments, to the extent of sending them now and again a few prescriptions. That was after they saw the trade in sundries, patents, and quack remedies gradually slipping away from them. Now throwing all consistency to the winds, druggists are advised to embark in the fitting of eye-glasses and thus add to their stock in trade, a valuable and profitable "side line" or department, first qualifying themselves at some good "institute" and obtaining the degree of "doctor of refraction." It is stated, on the authority of the above-named journal, that this is already a profitable "department" in some drug stores, and that more money can be made by a successfully managed "department" of this kind than from the drug store proper. Of course, they seem to be blind to the fact that this is another "pound of flesh" gouged from the physician—the eye specialist; but the past relations of the doctors and druggists in the matter of "counter prescribing," "substitution," and other overt and yellow acts are old scores, to which this new infringement will have to be added.

RED CROSS WORK.

The Governor-General recently spoke, at a gathering in Ottawa, of the splendid work accomplished by the great organization the world over, since its inception at Geneva in 1864. He thought that those who were interesting themselves in this important work in connection with the dispatch of the Canadian contingent to South Africa, could not do better than follow out the suggestions of Dr. Ryerson, the secretary of the organization in Canada with offices in Toronto, to the effect that it would be far more satisfactory to inaugurate a Canadian branch of the Red Cross Society, contributing to the central board in England, than for Canada to undertake to independently administer the affairs of such a society. If they were to affiliate with the British central committee in this way, the funds derived from Canada would no doubt be laid out by experience gained through many former wars. Dr. Ryerson thought that it was desirable to have united action in the matter and proposed that subcommittees should be formed in the large towns, to be called Red Cross committees, whose duty it would be to consult from time to time with the central office in Toronto, as to supplies and expenditure. Following on this suggestion, an Ottawa and eastern committee was formed; and the result of the meeting will be an impetus in the prosecution of this work in the Dominion. His Excellency further detailed a historic account of the past work of the organization, reciting many instances of his own personal connection with the order, and what he had seen it accomplish in the time of war. He spoke also of the centralization of the different relief funds for the wives and families of the members of the contingent at the front. A committee was organized for the purpose of collecting funds for the organization.

HOSPITAL ABUSE IN TORONTO.

The medical health officer, Dr. Sheard, having been ordered by the local board of health to inquire into and report on the abuse of medical charity in the general hospitals of this city, has made an exhaustive report on the whole subject. Exclusive of $16,000 for the Isolation Hospital, $3000 more than ordinary on account of the smallpox outbreak in the early part of the year, the total amount expended by the city on the four general hospitals in 1898 was $34,816.50. The report does not include a lump sum of $7500 donated to the Victoria Hospital for Sick Children. The total amount expended by the city on all the hospitals for these charity patients for the years 1894 to 1898 was as follows: in 1894, $24,714.75; 1895, $28,163.30; 1896, $32,858.75; 1897, $36,428.60; 1898, $24,816.50; 1899, to September 30, $26,969.50. Totals arranged as to institutions, from 1894 to 1899 (9 months) inclusive: Toronto General Hospital, $103,809.60; St. Michael's, $43,164.40; Grace, $25,241.40; St. John's, $3,270.00; Convalescent Home, $5,875.40; Western, $2,686.20. During these years there were admitted to these hospitals, charity patients as follows: General in 1895, 1343; 1896, 1342; 1897, 1271; 1898, 1157; 1899 (9 months), 926; St. Michael's, 1895, allowance cut off by order of the council; 1896, 637; 1897, 684; 1898, 761; 1899 (9 months), 588; Grace, 1895, 301 (then homeopathic); 1896, 288; 1897, 328; 1898, 285; 1899 (9 months), 265. Grace was this year converted into a regular general hospital. Western 1897, 60; 1898, 43; 1899 (9 months), 40. The average cost per patient at the General in 1895 was $14.48; 1896, $13.91; 1897, $15.60; 1898, $14.49; 1899 (9 months), $13.54; St. Michael's, 1896, $13.41; 1897, $12.92; 1898, $14.97; 1899 (9 months), $15.00; Grace, 1895, $14.40; 1896, $13.92; 1897, $16.24; 1898, $15.14; 1899 (9 months), $13.49; Western, 1897, $14.24; 1898, $22.91; 1899 (9 months), $21.22. The great disparity between the average cost per patient at the Toronto General Hospital and the Western Hospital, Dr. Sheard states to be due either to the fact that the Western did not cure its patients as soon as the General, or else they kept them after they were well. That the inquiry is already bearing fruit is seen from the fact that the relief officer has investigated 101 applications since the inquiry was ordered, about a month ago; and out of these it was found that 16 were able to pay or else had not resided any length of time in the city, sufficient to entitle them to the city's charity. This had affected a considerable saving even in that short time, and the work was recommended to be continued. It is altogether likely that the whole subject will be brought up in council immediately after the municipal elections in January.

London.

(From Our Regular Correspondent.)

London, Nov 24, 1899.

TRANSVAAL SERVICE AND SUPPLIES.

The only alleged scandal hitherto hatched in connection with the war preparations here, that of the reappearance among English supplies of some unfit American canned beef, is being thoroughly investigated, but seems to be little more than mere rumor as yet. It is certain that some tinned meat provided for the troops upon the troop-ship *Arawa* was found unfit for use and had to be thrown overboard, but what was the source of the meat-supply or the cause of its condition is yet *in nubibus*. The report that it was some of the very canned beef which attained such notoriety during America's Cuban campaign does not appear to be supported. In every other respect Sir William MacCormac, Mr. Makins, and Mr. Treves report themselves delighted with the perfection of both the commisariat and medical arrangements.

It is an interesting illustration of the somehow inherent inefficiency of officialdom, in matters connected with the health of the troops, that while a number of the larger transports, which were taken from the great shipping companies, provisioned themselves and supplied the soldiers with ordinary third-class passenger fare, not a single complaint has come as to the quality or quantity of the food supplied on these private vessels, while on the vessels directly provisioned by the Admiralty there has been considerable grumbling, and at least one instance of alleged unfitness of the food.

The most interesting event of the week in the military medical preparations has been the completion of the hospital ship, the *Princess of Wales*, fitted up by the royal lady whose name she bears, at an expense of something like $50,000. The ship itself was generously supplied by the Albion Steamship Company of Newcastle-on-Tyne, which also provided and pays the wages of the entire ship's company. It is one of the most perfectly equipped vessels which has yet been sent out, being warmed by steam, cooled by electric fans and with an ice machine with a capacity of half a ton of ice per day.

The largest single donation yet received for the care of the sick and wounded in the Transvaal was made this week in the generous gift of the Duke of Portland, of $50.000. to the English Red Cross Society.

The Irish Transvaal Society is adding its usual comic touch to the medical situation by clamorously demanding funds to enable it to send out an ambulance in the Boer service. The majority of the journals rather regard this as an attempt to assist the Boer cause under the cloak of medical humanity, after their loud clamor for actual volunteers to aggressively assist the burghers has met with so little response.

The officers of the ambulance equipped and sent out by Sir James Sivewright, although consisting largely of medical men of Dutch extraction, from Cape Colony and Natal, nobly announce their intention to assist the wounded of both sides equally, though probably the Boer wounded, needing more attention from the imperfect state of their ambulance service, will receive the greater share.

ROYAL COLLEGE OF SURGEONS.

The almost farcical annual meeting of the Members and Fellows of the Royal College of Surgeons was held this week, and as was expected, resolutions were passed severely criticising the council, for declining to ask for powers to extend the franchise to members, in the new charter. As only about forty of the more than 10,000 members cared to be present we fear that the attitude of the council will not be much influenced by this vote.

OPEN-AIR TREATMENT OF CONSUMPTION.

The splendid promise of the open-air treatment of consumption seems to be taking almost as firm a hold on the imagination of the English profession as on that of the public, as the crowded attendance at the formal discussion on this subject at the late meeting of the Medico-Chirurgical Society attested. Members were present from almost all over the kingdom, and so great was the interest of the discussion that it has announced that two more evenings will be devoted to the subject.

PRESERVATIVES OF FOODS.

The daily press is directing a certain amount of half humorous, and not wholly undeserved, criticism against the attitude of some of the medical witnesses before the Commission on the Use of Preservatives in Foods, which is now in session. It alleges that it seems impossible to arouse much excitement in the medical mind of the day, over any alleged intoxication, in which no microbe is to be discovered or even suspected, and complains of the cautiously worded and rather indefinite replies of the witnesses as to the probable effect of such preservatives as boric and benzoic acids, and even formalin, on the human system. They are exulting greatly over having finally got some positive evidence on this head, in the production of a body of a kitten, whose death had resulted from feeding on highly borated milk for a period of six weeks. This is alleged to be the only piece of positive evidence yet presented by our profession as to the actual injuriousness of these substances. It seems hard to bring home to the lay mind that the really important question about these mild food-preservatives is not as much their direct toxic effect as whether their use will cover up injurious fermentation and putrefaction changes in the foods themselves, especially in the case of milk, or allow uncleanly methods of preparing and handling to escape detection.

DOUBLY RELATED TO THE PROFESSION.

Miss Chadwick, the sister superintendent of the *Princess of Wales*, hospital-ship, is doubly related to the profession, in that she is the niece of Mr. W. K. Treves, F. R. C. S., at Brighton, elder brother of the well-known surgeon.

A Pathologic Department.

To the Editor:—I was pleased to read in the Journal of December 2, a communication from Dr. Frank B. Wynn, on the above topic. I wish to heartily indorse the suggestions of Dr. Wynn, and urge that immediate steps be taken to consummate the plans for a national pathologic department. Based on the propositions laid down by the Doctor it will prove a success.

As a member of the Indiana State Medical Society, I can add my testimony to the value of the exhibit as shown at our annual meetings. It has grown to be a valuable collection, and is highly prized by our members as a real school of instruction in its special department. Our state society feels proud of this pathologic museum, especially as ours was the first state to move in the matter, and we give the largest amount of the praise to Dr. Wynn, who has been untiring in his efforts to make it a success.

Respectfully,
G. W. H. Kemper, M.D.

Muncie, Ind., Dec. 4, 1899.

To the Editor:—I have read with pleasure the letter of Dr. Frank B. Wynn of Indianapolis, Ind., in the Journal of December 2, and take this opportunity of not only indorsing his idea of starting a section on pathology for the Association, but I also want to say that I am positive that it will meet with universal support from the physicians of this section, and I trust the subject will be considered by the officers of the Association, and favorable action taken at once. An exhibit of this character would undoubtedly draw large crowds to our annual meeting, and there could be no question that it would be one of the most instructive and interesting features that we could have to look forward to from year to year. The exhibit at Columbus, by the Indiana State Medical Society, last June, was to me in many respects the most interesting and instructive of any of the departments in connection with the meeting, and I am sure that it would prove equally so each year. The suggestion as made by Dr. Wynn should receive favorable consideration, inasmuch as he has demonstrated both in his letter and by practical experience, that the move can be made a success.

Respectfully, M. P. Goff, M.D.

Clarksburg, W. Va., Dec. 1, 1899.

To the Editor:—In the December 2 issue of the Journal I note with pleasure a letter from Dr. Frank B. Wynn recommending the inauguration of pathologic exhibits at the meetings of the American Medical Association, and I earnestly hope that the Executive Committee of the Association will favorably consider the suggestions contained therein. I feel sure that all who had the pleasure of examining the pathologic exhibit of the Indiana State Medical Society at Columbus, Ohio, will indorse and recognize this unique innovation in society work as a feature of great interest and practical benefit, and it would seem unnatural if other states did not soon follow the excellent example. If the favorable editorial mention that this movement has received generally is at all significant, the establishing of a department of pathology in the National Association must appeal to all those interested in the promotion of scientific medicine. If established along such a plan as suggested by Dr. Wynn, it would soon constitute a departure in Association work that would not only serve as a constant source of pride to the Association, but to its members—certainly be one of the most salient points of interest connected with the annual meetings of the Association.

Respectfully, Walter L. Bierring, M.D.
Professor of Pathology and Bacteriology, State University of Iowa.

Iowa City, Iowa, Dec. 8, 1898.

Credit to Dr. Marlow.

Denver, Colo., Dec. 7, 1899.

To the Editor:—In "Sajous Annual and Analytical Cyclopædia of Practical Medicine," volume iv, occurs an error to which I would like to call attention. By mistake my name is appended to the article on "Diseases of the Lens," but the writer of this excellent paper, I am informed, was Dr. Frank W. Marlow, Syracuse, N. Y., and to him the credit for it is due.

Edward Jackson, M.D.

Book Notices.

Medical Directory of New York, New Jersey and Connecticut. Edited by E. Eliot Harris, M.D., New York. Vol. I. Small Octavo. Cloth. pp. 882. Price, $2. New York: Trow Directory Printing and Bookbinding Co. 1899.

This directory, issued by authority of the N. Y. State Medical Association, and the N. Y. and Kings County Medical associations, is an illustration of what physicians can do for themselves, rather than leave it to those outside the profession. There is no reason why every state society, alone or in combination with the neighboring state societies, should not issue such a directory, and keep it under control so that its value to physicians themselves would be greater. Further, if it can be done so well by three states contributing, why not all states combine and get out a national directory, say every three years, admitting none to its pages who are not reputable. Such a directory would be a valuable one in many ways.

The book before us gives the names of physicians arranged according to towns, also alphabetically; the names of the members of the boards of health, charity organizations, etc.; the law governing the practice of medicine in the three states; the constitution and by-laws of the important medical societies, together with the constitution, by-laws and Code of Ethics of the American Medical Association. Much other information of value to physicians is also given. No advertising inserts mar the pages, the advertisements being placed at the end of the book, and these are only of the most ethical kind. None but regular physicians are admitted to the directory. The book as a whole is deserving of the highest praise, and such a publication should be encouraged.

Notes on Modern Treatment of Fracture. By John B. Roberts, A.M., M.D., Professor of Surgery in the Philadelphia Polyclinic. Illustrated. New York: D. Appleton & Co. 1899.

This little work, according to the author's prefatory statement, is a reproduction of the essays expressing his views, announced at various times, in regard to certain points as to the management of fractures. The essays are only altered in places to bring them into accord with his latest light on the subject. No indication is given as to the original publications, but some of them will doubtless be recognized by the readers of the Journal. The subjects considered include discussions on the necessity or propriety of exploratory incisions in closed fractures, the use of steel nails through the skin in fractures liable to displacement, the prevention of deformity, the common errors of treatment, refractures, injuries to the cranium, tenotomy, fractures of the forearm, etc. Dr. Roberts is a man of opinions and an unhesitating critic, and his book is therefore the more interesting and should be instructive, even if there should be some slight disagreements with the author's views. He certainly has the faculty of expressing his views clearly and fearlessly and his book is therefore the more likely to be accepted as a useful contribution to the literature of the subject.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription-Writing, and Medical Latin. A Manual for Students and Practitioners. By William Schleif, Ph.G., M.D., Instructor in Pharmacy in the University of Pennsylvania. Philadelphia and New York: Lea Brothers & Co.

This work forms the treatise on materia medica in Lea's Series of Pocket Text-Books, and covers the ground fairly well within the compass allowed. Many of the minor therapeutic agents are noticed, though many are necessarily omitted. A valuable addition is the section on foods, at the close of the work. It also gives an extended dose list and table of poisons and their antidotes, and of incompatibles, also a classification of drugs according to their action, all of which add to the value as a handy reference work.

Clinical Lectures on Neurasthenia. By Thomas D. Savill, M.D., Physician to the West-End Hospital for Diseases of the Nervous System, London. London and New York: William Wood & Co. 1899.

This volume includes lectures by the author, given in a postgraduate course, and some of them have already appeared in the London *Clinical Journal*. The book is pleasant and easy reading, and gives a very fair idea of many of the protean conditions that fall under the general head of neurasthenia. The author makes a special point of the existence of a special form of neurasthenic insanity, which he holds to be very generally curable and not adapted to asylum treatment, which in some cases may be disastrous. The disease is not so new or unrecognized as he seems to think, and there may be some difference of opinion as regards the necessity of sequestration, but the descriptions are very fair and the treatment of the subject generally interesting. The work concludes with a chapter on the history of neurasthenia, by Agnes Blackadder, M.B., and a bibliography.

Kirke's Handbook of Physiology. By W. Morrant Baker, F.R.C.S., and Vincent Dormer Harris, M.D., Lond., F.R.C.P. Fifteenth American Edition. Revised by Warren Coleman, M. D., and Charles L. Dana, A.M., M.D. Illustrated. New York: William Wood & Co. 1899.

This, the fifteenth American edition of Kirke's Physiology, hardly seems to need an introduction to our readers. The changes that have been made are merely in shifting the position of some of the chapters and additions in the descriptions of the cell, the coagulation of the blood, the ductless glands and muscular nerve physiology. The section on the nervous system, by Professor Dana, has not been materially changed, if at all, but gives a very full, up-to-date view of the very important subject of the nerve physiology. The editors have done their work well in the changes made, and the work will, beyond question, retain its position as one of the most popular textbooks on its subject.

Practical Anatomy, Including a Special Section on the Fundamental Principles of Anatomy. Edited by W. T. Eckley, M.D., and Mrs. Corinne Buford Eckley. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1899.

The author, in his preface announces that he submits this "little book" as a dissecting-room guide to Morris' Human Anatomy. This modest introduction hardly does it justice, for it is not a "little book" in the ordinary physical sense of the term, and as a dissecting-room guide we should consider it quite satisfactory and thorough. The illustrations are numerous and generally good, and the schematic ones are likely to be especially useful. Many of the illustrations are colored, thus adding to their attractiveness and value. For the purpose intended, we can heartily recommend the volume.

Minor Surgery and Bandaging, Including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M.D., Demonstrator of Surgery in the University of Pennsylvania. Fourth Edition. Illustrated. Philadelphia and New York: Lea Brothers & Co. 1899.

The appearance of this, the fourth edition of Wharton's Minor Surgery, is evidence of the favor with which the book has been received since its first appearance in 1891. The author has added a section on amputations, ligations, etc., thus materially enlarging the book and adding to its usefulness as a ready reference work on practical surgery when the larger and fuller works are not available.

Physiology. A Manual for Students and Practitioners. By Howard D. Collins, M.D., and Wm. H. Rockwell, Jr., M.D. Illustrated. Philadelphia and New York: Lea Brothers & Co.

This work, which forms one of the series of Lea's Pocket Text-Books, as stated by the author, makes no claims to special originality, but aims simply to serve as an introduction to the larger works on the subject, and also to be something a little more elaborate and to furnish fuller and more accurate information than the various popular quiz compends. Claiming no more than this, one can not see that it does not fully meet all its pretensions.

Introduction to Dermatology. By Norman Walker, M.D., Fellow of the Royal College of Surgeons of Edinburgh. Illustrated. New York: William Wood & Company. 1899.

The title of this work is especially remarked on and attention called to it by the author in his preface. The work does not claim to be a complete system of skin diseases, but apparently gives very satisfactory descriptions of the more common forms, while omitting some of those rare conditions that are liable to be met with only by, and are of interest to, the specialist. The work is very fully illustrated, largely with colored plates, and some of these, if not all, appear very satisfactory. The uncolored illustrations are in our opinion as valuable as the others. The work makes a very favorable impression.

Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Illustrated. Philadelphia, New York and Chicago: The F. A. Davis Company. 1899.

This is a very handy volume which ought to be useful and popular. So far as we are able to see, the subject is well presented and its statements are full and clear, meeting all the needs of a laboratory manual.

Deaths and Obituaries.

Francis C. Plunkett, M.D., died suddenly, November 29, in Lowell, Mass. He was born in Casthemore House, Ireland, March 13, 1842, attended the seminary of Achoury, at Ballaghdereen, and was matriculated later at the Royal College of Surgeons. He had a large experience in dispensary work in his native country before he came to America, in 1863, when he graduated in medicine. Almost immediately after his arrival here, he entered the army and was appointed assistant-surgeon to the 183d Ohio Volunteers. At the close of the Civil War, he was assigned to duty to the Bery-House Hospital, Wilmington, N.C., and from there was transferred to the Invalid Corps at Washington, D.C. Early in 1866, Dr. Plunkett went to Lowell, where he has been in practice since. He was one of the founders of St. John's Hospital, on the medical staff of which he served thirty-three years, being president several years. He was consulting physician to the Board of Health in 1871. He had been an alderman, a city commissioner, a member of the advisory board of the City Hospital, a member of the General Butler Post, G. A. R., and was a companion of the first class of the Loyal Legion. He maintained an active connection with the Massachusetts Medical Society, and was president of the northern district in 1887. With the death of Dr. Plunkett there passes out of view one of the most remarkable physicians ever known in Massachusetts. Though not known as a writer, on account of the demands of an enormous practice, he was a man of deep culture and versatile accomplishments.

Adeline Martine Rea, M.D., Woman's Medical College, Pa., 1893, died in York, Pa., November 23, of tuberculosis, aged 27 years.

William Augustus Lockwood, M.D., College of Physicians and Surgeons, N.Y., 1865, was discovered dead in his office chair, in Brooklyn, N.Y., the morning of December 8.

Stuart B. Carlisle, M.D., Bellevue Medical College, N.Y., 1881, of Mount Vernon, N.Y., died from cardiac disease, in the Harlem Hospital, New York City, December 8. An hour before his death he was found ill in the street, by a policeman.

Samuel Treat Armstrong, M.D., St. Louis Medical College, 1879, died in Manila, Philippine Islands, December 4, from leukemia. He was a native of Ohio and appointed from New York, a brigade surgeon, U. S. Volunteers, June 4, 1898. At the time of death he was surgeon of the Thirty-second Infantry, U. S. A.

DEATHS ABROAD.

William Allan Ira Case, M.D., the oldest citizen in the city of Hamilton, Ont., died on the 2d inst., at the age of 95 years. He was born in that city and made it his home all his life, and had practiced medicine for more than half a century.

Dr. Aubry, of Saint-Brieux, known outside his immediate circle by numerous works on the contagion of murder, influence of the press on criminality and other forensic subjects, is dead; also Dr. Carlos Valdes, a prominent physician, writer and legislator in France, born in Santiago, Cuba. F. V. Birch-Hirschfeld, professor of general pathology at Leipsic, died recently.

Miscellany.

Not Vaccin Virus.—The preparation known as anthrax vaccin or blackleg vaccin, for preventing disease in cattle known as anthrax or blackleg, the United States General Appraisers at New York hold, is not vaccin virus, and, therefore not entitled to free entry under paragraph 692, act of 1897.

Recording Telephone.—Young Professor Dussaud of Geneva, Switzerland, who has invented a phonograph for the deaf, a kinematograph for the blind, etc., has now constructed a recording telephone which, in combination with a phonograph, automatically records the message received over the wire. The message is delivered later through the phonograph. We note as a curiosity, by the way, the recent study of the voice and music, reversing the action of the phonograph, and of motion by reversing the kinematograph.

Indications and Technic of Thyrotomy.—Sir F. Semon, Schmiegelow and Goris have been commissioned to report at the International Congress of Medicine on this subject, and Goris appeals to surgeons everywhere, who have performed this operation to assist him with their experience in getting up statistics of the immediate and ultimate results, to establish the indications for thyrotomy, especially in respect to benign or malignant tumors and laryngeal tuberculosis. He begs to know the age and sex of the patients, nature of the affection and its exact localization, the general condition, details of the thyrotomy, with or without tracheotomy and the immediate and remote results, with a few observations. Address Dr. Goris, 175 rue Royale, Brusssels, Belgium.

"Cure" for Drunkenness.—A Jersey City, N. J., druggist claims to have discovered a new cure for drunkenness, and the *New York Herald* devotes a column in a sensational account of the way in which the cure was discovered. Unlike most great discoveries, this one gives away the formula. Here it is: One pound of fleabane; two quarts of powdered cayenne pepper; one quart of alcohol; three quarts of water. Place the fleabane leaves in the water and alcohol and let them stand two or three weeks; then press out and filter through filter paper. The dose varies from a half ounce to four ounces, given three or four times a day until the patient is under the influence of the drug. The alcohol is certainly in a sufficient quantity to "cure" any ordinary case. We hope our readers will not be too emphatic in their guarantee to cure alcoholism with the remedy.

Ophthalmia Neonatorum and Blindness.—According to the forthcoming report of the New York Institution for the Blind, there has been a continued decrease for the last thirteen years, in the number of blind children received at that institution. The report emphasizes that this gain is due to better sanitary and medical supervision, and says: "When this reform was first undertaken, some twelve years ago, a great many cases of blindness were chargeable to our custodial institutions, where the use by the inmates of the roller-towel and common wash-basins did a great deal to propagate eye troubles of every kind. This mistaken method has been done away with, and the good results of that change, improved by periodical medical inspection, have been most marked."

Inefficacy of Yellow Fever Serum.—Dr. A. Matienzo, of Tampico, who accompanied Dr. Baker to Vera Cruz, to test the yellow fever serum prepared by the N. Y. Board of Health, reports in the official *Boletin del Consejo Superior de Salubridad* of Mexico, that the injections produced hyperemia and acceleration of the pulse, but that they did not arrest the disease nor have the least effect on the appearance, the course or the duration of the symptons of yellow fever. He does not attempt to judge of its action as a preventive, on account of the limited number of cases treated. He adds that the reaction to the injections of toxin in convalescents from yellow fever, is equal or superior to the reaction induced in non-immunized persons, which confirms Sanarelli's assertion that the curative power of the serum is not due the antitoxic substances, and seems to confirm by its analogy with typhus serum, the suggestions of certain bacteriologists that the bacillus icteroides is a bacillus resembling Eberth's bacillus.

Congress on Tuberculosis and Its Modern Treatment.—The Medicolegal Society, New York City, will devote an extraordinary session to "Studies on Tuberculosis, Its Management and Modern Treatment," Feb. 21 and 22, 1900. The leading American scientists and specialists will be asked to contribute papers, and unite in the discussion of the subject. The following questions have been decided on for discussion: 1. Special hospitals and sanitariums, their construction and operation. 2. What are the most successful methods of treatment? 3. Individualization of certain forms of tuberculosis, its importance and necessity. 4. Is change of climate a necessity for successful treatment? 5. Should the use of antitoxins in tuberculosis be condemned from a purely scientific point of view? The profession is desired to co-operate by contributing papers and taking part in the discussion, and to advise either member of the committee as early as possible. Thomas Bassett Keyes, 98 State Street, Chicago; J. Mount Bleyer, 460 Madison Avenue, New York City; Clark Bell, 39 Broadway, New York City.

Regulation of Vivisection.—Senator Gallinger, on the 6th inst., introduced in the Senate the bill prepared by the Washington Humane Society to regulate vivisection in the District of Columbia. It is known as "Senate Bill, No. 34." and its principal provisions, which appear very fairly at first glances, are as follows:

1. A vertebrate animal on which an experiment calculated to give pain is to be performed must be placed wholly under the influence of ether or chloroform; except that in inoculation experiments or tests of drugs the animal need not be anesthetized; nor in surgical experiments need animals be kept anesthetized during recovery.
2. No such experiments may be performed in public schools.
3. All experiments upon living animals may be performed only in registered places and by persons properly licensed.
4. Inspectors are to be appointed by the President of the United States to visit places where experimentation is carried and to make reports directly to him.
5. Reports of the experiments made, the number of animals used, the methods employed and the results obtained shall be made to the Government whenever asked for, from time to time.

A Comment.—Under the term "repeaters," the Journal of the American Medical Association describes what it terms a "reprehensible habit" of some contributors to medical literature of reading the same paper in succession before a large number of societies. To this we would add a large number of writers who send copies of their papers simultaneously to a number of different journals. This habit is not objectionable, providing the papers are accompanied by the statement that they have been furnished to other journals, and there is an understanding that they are, or may be, published elsewhere. At the last meeting of the Mississippi Valley Medical Association a paper was read which has already appeared in five journals—in all of them under the heading: "Original Communications."—*Med. Review*, St. Louis, Mo., December 2.

Queries and Minor Notes.

INFORMATION WANTED: ANSWER.

Rogers Park, Chicago, Nov. 25, 1889.

To the Editor.—In reply to a query of H. S. W. (see Journal, November 25, p. 1376), I would suggest the following as being likely to be of value to the inquirer: 1. *Journal of Applied Microscopy*, Rochester, N. Y., $1 a year. 2. *Journal of Pathology and Bacteriology*, etc., published by Young J. Pentland, Edinburgh and London, at £1. 1s. 3. Possibly the *Journal of the Royal Microscopical Society* (through a Fellowship), London. 4. "Transactions of the American Microscopical Society" (as a member or buying) $3 a year.

Yours truly, X.

The Public Service.

BRITISH ARMY MEDICAL ORGANIZATION IN SOUTH AFRICA.

A medical officer of high rank has recently given to the London press an outline of the medical arrangements for the care of the sick and wounded of the army corps now operating against the Boers in South Africa. The following abstract of his paper will no doubt be of interest to many readers who have "seen service" on this side of the Atlantic.

FIRST AID ON THE FIELD.

A British army corps consists of upward of 36,000 officers and men, of whom 34,000 are fighting men, while the others are connected with the subsistence, quartermaster's, signal and other staff corps. It consists of twenty-five battalions of infantry, each in round numbers 1,000 strong, with cavalry and artillery varying according to the requirements of the business in hand. In South Africa there is or will be seven regiments of cavalry, four batteries of horse artillery, fifteen batteries of field artillery, in all about 84 guns, and four companies of engineers with pontoon trains. These units are organized into brigades and divisions. A cavalry brigade consists of three regiments and a battery of horse artillery, and an infantry brigade consists of four battalions. Each division comprises two brigades, and the infantry division has attached to it three field batteries and a company of engineers. The units not accounted for are called "corps troops." Each regiment, battalion, artillery division and company of engineers has attached to it a medical officer, who accompanies it into action with his orderly to give first aid to the wounded, while the regimental stretcher-bearers are ready to carry the first cases to the dressing-stations or field-hospitals. There are thus about forty-five surgeons on the field with the army corps.

BEARER COMPANIES.

To each brigade is attached one company consisting of 3 officers, 1 sergeant-major, 12 sergeants and corporals, 1 bugler and 44 privates of the R. A. M. C.—the Royal Army Medical Corps—with 38 men of the army service corps for transport duties. These bring the wounded to a collecting station where the ambulances of the "first line" are ready to carry them to the dressing station. This is organized at some building out of the line of fire, or if no building is available the operating tent is pitched. The major of the bearer company, with one other medical officer, four non-commissioned officers and four privates, one of whom is a cook, are on duty here to examine and dress wounds, administer medical comforts, and place the wounded in ambulances to be carried to the field-hospital.

FIELD-HOSPITALS.

There are twelve of these attached to the corps, each equipped for 100 beds, but so organized that sections of 25 beds can be unpacked and used separately. The personnel of each is 4 medical officers, 1 quartermaster, 1 sergeant-major, 11 sergeants and corporals and 23 privates of the R. A. M. C. with a sergeant and 19 privates of the army service corps. As these hospitals have to march with the troops, the wounded are sent as soon as possible to a post on the "lines of communication."

STATIONARY HOSPITALS.

For those unable to bear the fatigue of a long journey to the base of supplies, there will be resting-places or "stationary hospitals" along the line of rail. Each of these is equipped for 100 patients in two sections of 50 beds each. Four of these hospitals have been sent to South Africa. The personnel is similar to that of the field hospital, but without the army service men. Buildings are used when available, otherwise tents to form a camp may be forwarded from the base.

BASE HOSPITALS.

Each general hospital at the base has accommodations for 20 officers and 500 enlisted men. Four of these were mobilized with the army corps now in Africa and one is organized at Wynberg, near Cape Town. Suitable buildings are selected. The staff of each consists of a colonel and 7 officers, including a quartermaster, with 11 civilian surgeons, a woman superintendent and 8 nursing sisters, 2 warrant officers, 26 sergeants and corporals and 115 privates of the R. A. M. C.

DEPOT OF STORES.

These, for the supply of medicines, dressings and medical comforts, such as wine, spirits, beef essences, etc., are established at the base; and "advanced depots" are thrown forward to positions where the field-hospitals and bearer companies can draw on them.

HOSPITAL TRAINS.

The simplest form is obtained by stringing army stretchers by ropes from the roof of a baggage car. An improvement has been made by having Aldershot pattern frames to fit into the cars; several of these have been sent out to Africa. Two systematically equipped trains have been fitted out by the local authorities in Natal, with wards, stores, kitchen, dispensary and quarters for the medical staff. A special hospital train, "The Princess Christian's train," is now nearing completion in Birmingham, to be sent out as soon as possible. Sir John Furley has supervised its construction.

HOSPITAL SHIPS.

Only light-draft vessels can cross the bar at Durban. Two such, the *Spartan* and *Trojan*, have been fitted up, as previously noted in the Journal, and one is already on duty between Durban and Cape Town. Each has accommodations for 67 patients and 64 convalescents. The staff of each consists of an army medical officer, 2 civilian surgeons, 3 nursing sisters, 5 non-commissioned officers and 11 privates, R. A. M. C.

For transportation to England two steamers have been prepared. One, the *Midnight Sun*, newly christened the *Princess of Wales*, has been prepared for service by the Armstrong Company at Newcastle-on-Tyne. The staff will consist of 2 army medical officers, 2 civilian surgeons, 3 nursing sisters, 7 non-commissioned officers, 10 privates R. A. M. C., with 3 ambulance officers and 20 orderlies of the St. John's Ambulance Association. The other hospital ship, the *Maine*, has been chartered and is being fitted out as previously noted in the Journal. The senior medical officer is to be Surgeon Lieut-Col. F. H. Hensman, late First Life Guards, but the other members of the medical staff, including surgeons, lady nurses and orderlies will be from the United States.

SANITATION.

All possible precautions will be taken to guard against an epidemic of typhoid fever. Filters have been provided, and it will be part of the duty of regimental medical officers to look after their efficiency; but wherever possible drinking water will be boiled, as it is now recognized that boiling is more efficient than any filter. Each regimental officer is the sanitary officer of his camp. He has been fitted for the position by his training at the Army Medical School at Netley. The principal medical officer on the staff of General Buller, commanding the forces, is Surgeon-General Wilson, who has with him an expert in bacteriologic and chemical investigations.

RÖNTGEN RAY APPARATUS.

Ten sets have been sent out for general hospital and field use; in addition to these the *Princess of Wales* and *Maine* will each be provided with the latest and most approved patterns.

GENEVA CONVENTION.

The South African Republic accepted the terms of the Convention in January, 1897. Telegrams have been received announcing that the Boers have fired on the Red Cross flag. It will, however, probably be found that any such action has been on the part of irresponsible or ignorant persons.

NURSING STAFF.

The men of the R. A. M. C. are especially trained as nurses, dispensers, cooks, etc., but they are not equal to the other sex, and for some years past there has been an Army Nursing Service consisting of a woman superintendent, Miss H. Norman; about 20 superintendents and about 60 sisters, who serve at home and in the colonies, India being provided for by the Indian Nursing Service, which is a separate body. In South Africa there will be 4 superintendents and about 40 sisters, including those in the hospital ships. These numbers have been supplemented by 12 ladies taken from the Army Nursing Reserve, which consists of upward of 100 sisters possessing the requisite qualifications, under the management of a committee presided over by the Princess Christian. Applications to be accepted for nursing duty from all sorts and conditions of ladies are said to have been overwhelming; but only the regularly enrolled will be sent out.

CONSULTING SURGEONS.

Col. W. F. Stevenson of the medical corps, Sir William MacCormac, K.C.V.O., president of the Royal College of Surgeons; Mr. Frederick Treves, F.R.C.S., and Mr. G. Makins, F.R.C.S., have been appointed consulting surgeons, as previously mentioned in our news columns. This is not to be regarded as a confession of weakness as regards the dexterity of the army medical officers. There are many brilliant operators among them. Modern surgery is conservative. Many a limb is saved now which for the same injury would a few years ago have been amputated. Cases must occur, however, where the extent of the injury, etc., situation, and the actual condition of the wounded man make it no easy matter to decide whether resort should be had to operative interference.

REINFORCEMENTS.

Another division is being mobilized for service and will be accompanier by three bearer companies and three field hospitals.

NATAL FIELD FORCE.

Sir George White's troops in Ladysmith constitute another division. It has five field hospitals.

NUMERICAL RECAPITULATION.

The medical establishments in service when the whole force has arrived in Africa, excluding those usually present in Cape Colony in time of peace, will comprise 282 medical officers of the army; 68 civilian surgeons; 56 nursing sisters, including 4 superintendents; 28 quartermasters, 2050 of all other ranks, with 800 army service corps for transport.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., from December 1 to 7, inclusive:

Roger T. Atkinson, acting asst.-surgeon, from Wakefield, Mass., to the Department of California

Walter C. Chidester, acting asst.-surgeon, from Dayton, Ohio, to the Department of California.

Robert C. Eye, acting asst.-surgeon, from Fort Terry, N. Y., to duty at Key West, Fla

Meyer Herman, acting asst.-surgeon, from the Division of Cuba to New Orleans, La., for annulment of contract.

Henry Kiersted, acting asst.-surgeon, from Philadelphia, Pa., to the Department of California.

George B. Laurason, acting asst.-surgeon, from Washington, D. C., to the Department of California

Frank J. O'Hare, acting asst.-surgeon, from Fort Myer, Va., to the Department of California.

Henry I. Raymond, major and surgeon Vols., sick leave extended.

Frederick P. Reynolds, captain and asst.-surgeon, U.S.A., leave of absence granted

Chandler P. Robbins, acting asst.-surgeon, from Louisville, Ky., to the Department of California.

Bat Smith, acting asst.-surgeon, from New York City to Washington, D. C., to report to the surgeon-general for instructions; leave of absence granted.

Henry R. Stiles, captain and asst.-surgeon, U.S.A., previous orders directing him to proceed from Benicia Barracks to San Francisco, Cal., revoked; he will proceed to Madison Barracks, N. Y.

Benjamin L. Ten Eyck, captain and asst.-suurgeon, U.S.A., sick leave extended.

Louis A. Thompson, acting asst.-surgeon, from Dayton, Ohio, to the Department of California.

Timothy E. Wilcox, major and surgeon, U.S.A., member of a board to examine officers for promotion convened in New York City.

Ezra Woodruff, major and surgeon, U.S.A., previous orders amended so as to direct him to proceed from Camp Meade, Pa., to Fort Hamilton, N. Y., via Fort Trumbull, Conn.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended Dec. 9, 1899:

Medical Director D. Dickinson, promoted to medical director.

Medical Inspector G. E. H. Harmon, promoted to medical inspector

P. A. Surgeon A. W. Dunbar, detached from the *Resolute*, when placed out of commission, and ordered home to await orders.

Asst.-Surgeon R. K. McClanahan, ordered to the Washington navy yard.

Asst.-Surgeon W. M. Garton, detached from the Washington navy yard and ordered to the *New York*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U.S. Marine-Hospital Service for the 7 days ended Dec. 7, 1899:

Surgeon F. W. Mead, granted leave of absence for one day.

Surgeon G. M. Magruder, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to London, England, for duty

P. A. Surgeon T. B. Perry, relieved from duty at New York City, and directed to proceed to Baltimore, Md., for duty and assignment to quarters.

P. A. Surgeon C. P. Wertenbaker, to rejoin station at Wilmington, N. C.

P. A. Surgeon A. C. Smith, to proceed to New York City, and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Hamburg, Germany, for duty.

P. A. Surgeon Rupert Blue, to proceed to Genoa, Italy, for duty.

P. A. Surgeon F. K. Sprague, to proceed to Antwerp, Belgium, for duty.

P. A. Surgeon J. B. Greene, relieved from duty at Boston, Mass., and directed to proceed to New York City, and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty.

Asst.-Surgeon S. R. Tabb, to proceed to Savannah Quarantine Station (Georgia) for temporary duty.

Asst.-Surgeon S. B. Grubb, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Havre, France for duty.

Asst.-Surgeon W. C. Hobdy, to report at Washington, D. C., for special temparory duty and then to rejoin station at New York City; relieved from duty at New York City (Stapleton) and directed to report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Southampton, England, for duty.

Asst.-Surgeon G. M. Corput, upon being relieved from duty at Baltimore, Md., to report at Washington, D. C., for special temporary duty; then to proceed to New York City, reporting to Surgeon L. L. Williams (Immigration Depot) for special temporary duty

Asst.-Surgeon F. J. Thornbury, relieved from duty at San Francisco, Cal., and directed to proceed to the San Francisco Quarantine Station for duty.

Acting Asst.-Surgeon B. W. Goldsborough, granted leave of absence for two days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General of the U. S. Marine-Hospital Service, during the week ended Dec. 8, 1899:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 23, 3 cases in 48th Regiment, U. S. Vols.

District of Columbia: Washington, Nov. 25 to Dec. 2, 2 cases.

Illinois: Dixon, Dec. 3, 125 cases.

Louisiana: New Orleans, Nov. 25 to Dec. 2, 2 cases; Shreveport, Nov. 25 to Dec. 2, 1 case.

Massachusetts: Chelsea, Nov. 25 to Dec. 2, 3 cases.

Michigan: Nov. 25, reported in 6 places.

New York: New York, Nov. 25 to Dec. 2, 2 cases.

Ohio: Cleveland, Nov. 17 to Dec. 2, 1 case.

Virginia: Portsmouth, Nov. 25 to Dec. 2, 3 cases, 1 death.

SMALLPOX—FOREIGN.

Belgium: Ghent, Nov. 4 to Nov. 18, 3 deaths.

Brazil: Rio de Janeiro, Oct. 22 to Nov. 3, 200 cases, 123 deaths.

England, London, Nov. 11 to Nov. 18, 1 case.

India: Bombay, Oct. 23 to Nov. 7, 7 deaths; Madras, Oct. 28 to Nov. 3, 1 death.

Mexico: Mexico, Nov. 12 to Nov. 19, 1 case, 1 death.

Russia: Moscow, Oct. 28 to Nov. 4, 1 case, 1 death; St. Petersburg, Nov. 4 to Nov. 11, 9 cases, 5 deaths; Warsaw, Nov. 4 to Nov. 11, 9 deaths.

YELLOW FEVER—UNITED STATES.

Louisiana: New Orleans, Nov. 25 to Dec. 2, 1 case.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Oct. 23 to Nov. 4, 6 cases, 3 deaths.

Cuba: Havana, Nov. 22 to Nov. 29, 11 cases, 8 deaths; Santiago de Cuba, Nov. 15 to Nov. 22, 1 case.

CHOLERA.

India: Bombay, Oct. 23 to Nov. 7, 2 deaths; Calcutta, Oct. 1 to Oct. 21, 33 deaths.

PLAGUE.

Austria: Trieste, Nov. 4, 1 death, sailor on Ottoman liner *Polis Mytilini*.

India: Bombay, Oct. 23 to Nov. 7, 165 deaths; Calcutta, Oct. 1 to Oct. 21, 134 deaths; Kurrachee, Oct. 22 to Nov. 4, 3 cases, 6 deaths.

Paraguay: Asuncion, Oct. 7 to Oct. 24, 10 deaths.

CHANGE OF ADDRESS.

Anderson, M., from 513 15th St. to Chase Bldg, Moline, Ill.
Balduc, J. O., from 104 S. Hoyne Ave. to New Era Bldg, Chicago.
Bush, J. H., from Indianapolis, Ind. to Charleston, Ill.
Boswell, A. J., from 199 E. Lewis St. to Fairfield Ave. Fort Wayne, Ind.
Baccus, V., from 349 to 351 N. Clark St., Chicago.
Collard, L. R., from Austin to Junction City, Texas.
Clasen, H. W., from Littleport to Postville, Iowa.
Dwelle, E. H., from 2611 Calumet Ave. to Mercy Hosp., Chicago.
Dewey, C. R., from Berrien Springs to Keeler, Mich.
Elliott, H. R., from 1667 Downing to 42 W. Ellsworth St., Denver, Colo.
Fanning, G. J., from Philipsburg, Mont. to Warm Spring, Ore.
Farr, W. W., from 5800 Green to 1224 Walnut St., Philadelphia, Pa.
Gates, L. A., from Bridger, Mont. to Shannon, Ill.
Gable, W. F., from 1337 Courtland to 627½ N. High St., Columbus, Ohio
Gibbons, P. J., from 324 Warren St. to Snow Bldg, New York City.
Heinberger, D., from Leadville to 2204 Clarkson St., Denver, Col.
Hood, T. C., from Dana to Willoughby Bldg., Indianapolis, Ind.
Hall, F. J., from 395 Main St. to Linz Bldg, Dallas, Texas.
King, F. R., from Anita, Iowa to Keensburg, Ill.
Kingsbury, W. P., from Brooklyn to 203 East 19th St., New York City.
La Baume, Lydia, from Geneva to Rockford, Ill.
Lunn, W. B., from Baraga to Marquette, Mich.
McMeekin, R. J., from Saginaw to Akron, Mich.
Meloy, W. W., from 119 S. Paulina to 734 W. Monroe St., Chicago.
Morris, R. T., from 49 W. 39th to 58 W. 56th St., New York City.
Prioleau, W. H., from New York City to Thomasville, Ga.
Prewitt, T. F., from 3101 Pine to 4615 Westminster Pl., St. Louis, Mo.
Rice, N. J., from Randolph to Council Bluffs, Iowa.
Richmond, W. B., from Mt. Pleasant, Mich. to Brazil, Ind.
Snyder, T., from Crystal Beach, Ont., to 1919 Main St., Niagara Falls, N. Y.
Vanten, F. A., from 366 Wabasha St. to 275 Lowry Arcade, St. Paul, Minn.

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Original Articles.

THE PROGRESS OF MEDICAL EDUCATION—A SUGGESTION FOR A BETTER ARRANGEMENT OF THE MEDICAL CURRICULUM.

BY BAYARD HOLMES, M.D.

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CHICAGO.

In looking back over the progress of medical education in the United States during the past fifteen years, the profession can congratulate itself on a steady, and even remarkable development. In 1881 there were in the United States 25 students of medicine, 6 of law and 9 of theology to each 100,000 inhabitants. The students of theology were maintained and educated by private endowments, amounting to over $20,000,000, those of law paid for their own education in fees, while the students of medicine paid only trifling fees, and were educated for the most part at the expense of the medical profession. Since 1881 the medical students in the United States have increased in a remarkable ratio, from 13,000 to 24,000, and are still educated at the expense of their educators. The fees in the majority of schools have been inadequate to pay the incidental expenses and the instructors, and the total endowments of medicine are less than $1,000,000. But it is not in the number of students, nor in the amount of endowments, that the greatest progress has been made. The course of study for the degree of Doctor of Medicine has, in the past fifteen years, been doubled in its duration of time, and more than doubled in the amount of work required of the student. It may be that this rapid growth of the medical curriculum has not always been most wisely directed, but it is a matter of peculiar significance and speaks loudly for the solidarity of the medical profession that the arrangement of the course of study has been practically uniform throughout the United States.

In the old medical school, requiring two courses of lectures, there were usually morning lectures on anatomy, physiology and materia medica, and in the afternoon on medicine, surgery and obstetrics. Each student was expected to attend all these lectures every day during the winters of two succeeding years, and then to pass a written or oral examination and receive a diploma which became his license to practice medicine. In the summer intervals many students had an opportunity to share the practice of medicine with their preceptors, and often to assist them in medical and surgical operations and emergencies. Gradually the course of study grew to three and then to four years. Instead of repetition courses, new studies were introduced, especially laboratory work and clinical exhibitions, requiring five to eight hours a day of the student's time on entirely new work, during each succeeding course. In other words, the medical courses gradually became graded after the fashion of the graded system in the primary branches of the public schools. With this graded system was introduced a system of written examinations, while at the same time the importance and usefulness of the preceptor gradually diminished, and the opportunities of practice with him were lost. The work of the medical school became a treadmill of lectures, recitations, laboratory work and clinical demonstrations, and the examinations became extremely burdensome to the student.

Teachers who base their claim to efficiency on the difficulty of the questions they ask and the severity of their markings, and teachers who magnify their own departments, and require a greater proportion of the student's time than a wise supervision could allow, and teachers who deprecate the importance of one form of teaching—e. g., laboratory work—and exalt that form of teaching which seems to them more practical—e. g., clinical teaching—have made the life of the medical student an extremely hard one, and at the same time they have disturbed the administration by constantly "plucking" a large proportion of students on the eve of graduation. In other words, the medical curriculum has been increased beyond the strength of the old organization of the medical faculty. The teachers of medicine have been paying too much attention to the subjects or else too little to the students they were teaching, and to the manner in which they were doing it. The teacher of chemistry has devoted himself to the study of chemistry, and he has paid no attention to the study of the student and the student's need of chemistry, while he has paid no attention to the method of teaching chemistry so as to make this most useful to the physician the student expects to become. The same may be said of the teacher of pathology, and of practically every teacher in every medical faculty, except perchance that teacher happens at the same time to be the secretary or dean of the faculty, and therefore brought in contact with the student in his general relations to the college.

In this process of building up and rounding out the medical curriculum during the past ten or fifteen years, the labor imposed on the medical student has been enormously increased. In some colleges the student is actually required to sit in the lecture-room, in the clinic or in the laboratory, an average of eight hours a day, or forty-eight a week; and besides this he is expected to read and prepare himself for recitations by the expenditure of not less than five other hours each day, or thirty other hours each week, an amount of required time which, when it is presented in this form, makes the requirement absolutely absurd. It is not entirely useless to seek for the cause of this unbalanced growth. It is evidently in a measure the natural result of the growth of medical science, which has added several new and large departments to the domain of medicine. It is due also to the inherent fault in the organization of the medical school.

But perhaps worst of all is the disintegration which has come into the medical curriculum. When the medical school was small, and the number of teachers few, each teacher was a practicing physician, and he knew every student. Anatomy is now taught by an anatomist who does not practice medicine, and who has forgotten all but the most obvious reasons why the medical student should study the dead human body. He prides himself on his own intimate knowledge of this wonderful structure, and it is his effort and determination to secure an equally accurate knowledge of the most minute structures, on the part of every student in his class. The greater topics in anatomy, from his standpoint, are the topics the most difficult to comprehend. The sphenoid takes more time from the student than the elbow-joint. Anatomy is studied as if it were disconnected with the living human body and the practice of medicine. The student has no adequate and immediate motive for this study, and he approaches it through the bones which are most hidden from his view, and least connected with what he knows already. While he is studying these unknown, or remotely known bodies, he begins, under another teacher, who disassociates his work as much as possible from the student's previous and present interests, the study of physiology, on equally unknown or slightly known animalculæ, on frogs or on dogs. And perhaps this process of disassociation goes still further, and he studies the histology of the organs of reproduction, or of the various glands of the body, and of the other soft tissues, under a professor of histology, who gives out mounted specimens or cut and stained sections of these tissues with a label on each specimen to the effect that "this is a liver," and "this is the stomach of a cat," and "this is an intestine of a guinea-pig."

For a year or two the student studies dead human bones and flesh; he works on living animalculæ and mangled frogs and dogs, and he peeks through an instrument at colored shreds of tissues taken from bottles smelling of wood alcohol and oil of cloves, and does this with no motive except to answer questions, and make pictures and talk learnedly about processes which seem to him to belong to another world. Then at last the student begins to see living men and sick men; he sees the process of diagnosis, and frequently has the instruments of diagnosis thrust unexpectedly on him and he is initiated as a spectator into the mysteries of medical and surgical treatment. Here, also there is the greatest disassociation of ideas. Pathologic conditions are studied on specimens taken out of bottles, or they are studied in the books. Materia medica and therapeutics are studied before the student has any knowledge of the pathologic and clinical conditions in which drugs are to be used, or other therapeutic measures employed.

By this system the student's mind is filled with a multitude of words and indistinct pictures. No part of the field of medicine is studied transversely. Like a student of geology who has studied the various geologic ages in the museum, and finds himself lost when he goes into the field; so the medical student, after years of cramming and dissecting, section making and hunting unknowns, finds himself utterly unable to cope with the simplest problems of diagnosis and treatment.

This statement of affairs has caused many teachers to look back with longing eyes to the old days of the preceptor and the short course of medical lectures, and it has led other teachers to bestir themselves and study the pedagogic problems which have been working themselves out for a long time in other departments of education. It may not therefore be amiss, if, as one of these, I present in a more or less concrete and extended form, my own opinions in regard to the direction of the next step, which step, in some direction, everyone admits must be taken in the development and progress of medical education in the United States.

First of all it seems to me the ironclad sequence of medical studies must be broken up, and that the various branches of the medical curriculum must be intimately connected. Medicine must not be studied in separate layers, but transversely, and all parts of the medical curriculum must be bound into a perfect union by the motive which holds them together in the mind of the practicing physician and surgeon.

Medical education is not a preparation for the practice of medicine, but it is and must be the practice of medicine itself. The student and the patient must meet at the door of the medical school, and the motive for medical study must from the start be the cure or the treatment of the patient. The abstract statement is easier to make than any plan which will accomplish the object. But this object was accomplished by the old system with the preceptor, even though its accomplishment was rudely and uncertainly attained.

Before any change can be made which will unify and co-ordinate the medical curriculum, every member of the faculty must be brought into harmonious sympathy with the idea that the medical school is to educate and not to instruct; that it is to develop the power of the student to cure the patient and not the ability of the student to answer questions or perform academic or laboratory feats. This, it seems to me, can be brought about by a more intimate subordination of the faculty and the curriculum to a medical educator, of which class of men most faculties possess two or three, rather than to a venerable or honorable dean, whose employment and disposition leaves each teacher to a complete independence in regard to the management of his own so-called department. The student must come in close contact with the patient on the one hand, and with the teaching faculty on the other; and this contact must be attended with responsibility. The student must feel his responsibility for the care of the patient, and the faculty must feel a united and individual responsibility in the direction and education of the student. All of these ends I believe can be attained by the organization of an elective course in medicine, which will allow the student to study thoroughly some one part of the field of medicine, from which eminence he will attain a better knowledge of the whole field of medicine than is now attained by the body of our medical graduates.

The architecture of the old medical school corresponded with the purposes for which it was used. It usually consisted of a more or less monumental building, containing a large lecture-room in the form of an amphitheater, and a spacious room used for a museum, and a dark upper one for dissections, which latter were usually carried on at night. This simple arrangement would not adapt itself to the needs of the medical school of to-day. The traditions in medicine are so strong that the amphitheaters have been multiplied, with the addition of laboratories, store-rooms, preparation-rooms and study-rooms. In some colleges libraries have also been added. The Bureau of Education reports, for the year ending 1897, libraries with 119,000 volumes in the various medical schools. This seems very small compared with the extensive ones in the schools of theology and the literary institutions of the country. Fifty of the 150 medical colleges report libraries ranging all the way from 200 to 10,000 volumes.

The increase in the equipment of the medical college has corresponded with the increase in the curriculum and in the number of teachers employed, but these additions to the equipment have often been made without considering the possibility of change in the methods of instruction. The dissecting-rooms have been increased in size, without adding to them instruments, preparations and works of reference so necessary to any thoroughly anatomic work. It is still thought sufficient in most of our colleges to cut up the cadaver. Little use is made of other methods of study, such as digestion, corrosion and infiltration. With the growth of the medical college, the number of students in the classes taught has increased to an unmanageable extent. To lecture or speak to a large number of students is always flattering to a teacher, although all pedagogic experience is opposed to successful teaching in large classes, except that of a most superficial and exceptional character. The proposed changes in the medical curriculum would require the removal of all the amphitheaters, except perhaps one, and the substitution of numerous small rooms adapted to the accommodation of classes of twenty to fifty students.

The foregoing plan[1] would perhaps work itself out, as do all experiments with human beings, more or less unexpectedly. It is probable that teachers who are now poorly fitted for lecturing in an amphitheater would find themselves excellently prepared to conduct the proposed studies. It is likely also, that a larger number of teachers would be required than are now engaged in medical teaching.

This plan is not proposed as an easier way to teach medicine; it is a more serious and a more earnest method. It contemplates a more intimate and coherent organization of the faculty than prevails in most of our medical colleges, and an organization, too, for the study of medicine and the advancement of research. The successful teacher must himself be a student. If an institution would successfully teach medicine that institution must be so conducted as to year by year advance medical knowledge. The medical school should be a hive of industry where teacher and student work together to find some better way to cure the patient safely, quickly and pleasantly. In order to cure the patient, laborious and long-continued anatomic research, combined with equally laborious, even more exacting and difficult, pathologic research may be necessary. While all the results of such study and teaching may not be "practical," they are valuable in the end. These researches are carried on primarily for the discovery to the student of the facts concerned, but this primary motive is not the essential part of the education. The effect of this honest forceful exercise on the student himself is the real object of the research and the real essence of the education.

In some of our manual training schools the students make, from the day they enter the school, first-class articles for their own use. To begin with, these are simple, and later they are more difficult of construction. No article is left or given up until it is completely finished and put in use by the student himself. The finishing of a necessary thing is the essential element in sjloyd. It is in these two particulars that it makes its great protest against most of our educational methods. Many mistake the object of, say, wood sjloyd. They think that its object is to produce first-class trunks or first-class chairs or first-class tables. But this is a mistake. Its object is to produce first-class men, and the making and finishing a first-class trunk, chair and table is only a means to the end. Carpentry, on the one hand, has for its end the production of first-class articles in wood; sjloyd, on the other hand, like every other means of education, seeks to produce first-class men. Wood sjloyd uses the production of these objects solely for the benefit of the producer, while carpentry cares nothing for the carpenter so long as the product is good.

This long and clumsy analogy has seemed to me necessary to make my object clear in this proposed medical school. The work done by the student must have an adequate and immediate object. This object must always be the cure of the patient. The work must be done in the best, most thorough and most artistic manner. It must be as good as the best in every particular. It must be finished to the very end, and this end is to the point of making the work, research or investigation useful. The end of some such investigation is not reached until the research is published. All this work is to be done with the primary end in view, of curing or caring for some particular patient, but the hidden and essential end is the education of the student. And again, let me insist that the great object of any true plan of medical education will and must from the start put the student in the place of the physician. It will secure progress, going from the known to the unknown. This progress will be made or compelled by an adequate and imperative motive, namely, the desire to cure the patient. It will co-ordinate all the branches, so-called, of the medical curriculum about the patient and his treatment. It will secure through this pressing motive such an interest on the part of the student, such a fluidity of intellect, such a concentration of purpose and such an intensity of application as will make it resemble the play of children and the activity of genius. It will unite the various and now distinct members of the medical faculty on common objects of interest, and promote unity where there is now unfortunate rivalry. It will make the medical school a center of medical information and research, and the source of material for medical literature. It will raise medical education to a plane and dignity worthy the support of private endowment and state aid, and make the medical faculties the pride of the medical profession. It will regenerate the body of the profession by infusing new blood and new spirit, and it will call forth into medicine the best educated young men in the land, who are now repelled and driven into other occupations by the unpedagogic methods of our schools.

Druggists and Medical Practice.—Justice McLean, in the New York supreme court, has rendered a decision in connection with the dismissal of the complaint in a suit brought by Ferdinand Roth against Arneman & Behrens, druggists, to recover $10,000 damages for alleged improper treatment of a cut on the thumb. Roth having received the cut, went to the defendants' drug store, where a clerk bandaged the wound, and handed the plaintiff a bottle containing carbolic acid, directing him to put a few drops on the bandage. Acording to Roth, this treatment resulted in inflammation, blood-poisoning, and finally in amputation of the thumb. The defendant set up the plea that druggists were not permitted, under the laws of this state, to practice medicine and surgery, that the plaintiff should, therefore, have gone to a qualified physician and surgeon, and that if any action could be maintained in this case, it could only be against the clerk. The judge coincided in this view, declaring that the complainant sought advice at his own risk.

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[1] A few copies of this announcement, as prepared for a medical school, were distributed at the meeting of the Association of American Medical Colleges, and they can be procured of the author on application.

ON LATENT INFECTION AND SUBINFECTION, AND ON THE ETIOLOGY OF HEMOCHROMATOSIS AND PERNICIOUS ANEMIA.[*]

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(Concluded from p. 1514.)

ON THE PRESENCE OF BACTERIA IN NORMAL TISSUES.

Similar considerations and similar criticisms may be brought to bear on the observations which have been made with regard to the existence of bacteria in the normal tissues. Time and again observers, like Hauser,[35] Neisser,[36] and yet others, have found the tissues of healthy animals so frequently sterile that the occasional gaining of cultures from the organs has been by them referred to contamination in the admittedly difficult task of removal of organs or parts of organs from the body into sterile receptacles. Thus, for example, Neisser, out of some thirty-seven rabbits, mice and guinea-pigs, which he fed with various pathogenic and non-pathogenic organisms and in certain of which he further set up grave intestinal irritation by giving at the same time croton-oil or powdered glass, failed to gain cultures from growths in the liver, spleen, kidneys, lungs, etc., in twenty-four, and only gained cultures, and these in not all the organs, in the remaining thirteen. His method was apparently most complete; the animals were skinned and then placed in sublimate solution so as to sterilize the surface, then fastened out on sterile boards, the operator himself having his hands sterilized, and each organ was removed in turn by a separate set of sterile instruments and then placed in sterile vessels and melted gelatin or, rarely, melted agar poured over them, while only after two days were they examined.

The results seem most positive, and what is remarkable is that even when cultures did grow in the organs, in general they were not the forms with which the animals had been fed.

Recently Dr. A. G. Nicholls and Dr. Ford, Fellow in pathology at McGill, have been repeating these observations, and they have gained very different results and Ford has discovered wherein Neisser has been led astray. The animals employed by him so far have been rabbits, and he has taken precautions similar to those employed by Neisser to guard against contamination. Immediately after removal of the kidney or portion of the liver with sterile instruments, it has been placed in the flame of a large Bunsen burner and turned around until the surface began to "splutter," if I may so express it, thereby making sure that there should be no surface contamination. The organ or part has then been dropped into a sterilized bottle of special construction, containing melted glycerin or melted agar, so that if there were any subsequent contamination by the air it would first of all show itself on the surface of this medium when solidified. Dr. Ford will publish his whole series of observations later, but he has done sufficient to allow me to state that where organs are placed in gelatin and kept in the cold, a large portion remain absolutely sterile and show no growth, whereas when placed in agar and kept at the body temperature, the majority of livers and kidneys show relatively abundant growth after two days or less.

Here, again, I take it, the bactericidal influence of the body tissues come in. It may be that if the organs be not immediately removed after death, such bacteria as are present undergo attenuation and destruction with fair rapidity, unless, as in cases of disease, they be present in relatively large numbers, while at the same time the bactericidal powers of the tissues are depressed. What appears more evident, though, from Dr. Ford's results, is that this inhibitory action of the body tissues upon microbes that are accustomed to live at the body temperature is favored by keeping cool, or more correctly that the activity of growth of the bacteria is depressed. That Dr. Ford's results can not be ascribed to contamination is rendered evident by the fact that where he has found microococci growing in the normal removed liver, he has found them also growing in the kidney. If certain forms of bacteria be present in one organ, the tendency for them is to be also present in the other; though it should be added that—as might be expected if these have been brought to the organs from the intestines—colon-like forms predominate, and again not infrequently more than one form is present.

Let me, before proceeding farther, gather up and group together the conclusions which may be legitimately adduced from the facts so far brought forward. They are, it seems to me, the following:

1. Normally there is a passage out of leucocytes through the mucosa on to the free surface of, more especially, the alimentary tract.
2. These leucocytes, while in part undergoing a destruction, in part find their way back between the epithelial cells, bearing with them foodstuffs and solid particles, among which may be the bacteria present in the cavity of the gut.
3. During the active congestion which accompanies digestion, the passage out and return of these wandering cells is increased.
4. These cells upon their return find their way either into the lymphatic channels or the venules of the portal system.
5. In either position, they tend to be destroyed and digested by the leucocytes and thus, while preparations of the mesentery and of the mesenteric lymphatic glands may show abundant bacteria, the vast majority of these at the same time show obvious degeneration, while cultures made from the mesentery or from the lymphatic glands upon ordinary media by ordinary methods as a consequence tend to remain sterile. Similarly, in the normal liver, the same rapid destruction takes place, so that here again, by ordinary methods, no evidence of living bacteria is obtainable.
6. By the employment of adequate methods it can be demonstrated that even in the healthy liver and kidney in a large number of cases, in one animal at least—the rabbit—a certain number of living microbes are present at any one moment so that, if the healthy organ be removed from the body, cultures can be obtained of these living microbes.
7. It is most probable, further, that in ordinary health a certain number of bacteria which have not been destroyed by the leucocytes or removed by the lymphatic glands or endothelium of the portal system, pass either through the thoracic duct or through the liver into the systemic blood. Such bacteria tend to be removed more especially by the kidneys, though it may be by other glandular organs. In any case the ordinary methods at present employed in making cultures from blood are inadequate to detect the presence of such bacteria unless they are of such a nature or are circulating in such quantities that the whole number is not destroyed by the bactericidal action of the shed blood.

LATENT INFECTION.

It follows further, from these conclusions, that there does exist a condition of what the French term "latent microbism," or what I think should be more correctly termed, for my present purposes, "latent infection." We have abundant evidence that even in the healthy feces such forms as the pyococci, streptococci and the bacillus pyocyaneus are to be encountered fairly often. We further know that the commonest form inhabiting the intestine, that which outgrows all other forms, namely the colon bacillus, even when obtained from perfectly healthy feces, may show marked pathogenetic properties when inoculated into the lower animals.

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[*] Annual Address delivered before the Society of Internal Medicine. Chicago, Nov. 29, 1899.

We also know as a common fact in pathology, that just as one swallow does not make a summer so an isolated microbe gaining entrance into the system, does not usually set up disease. Save when we are dealing with the most virulent forms of pathogenetic micro-organisms and with animals which are peculiarly susceptible, it requires numerous bacteria entering at the same time to so lower the resisting powers of the tissues as to there survive and proliferate. Even with the tubercle bacillus it has been calculated that, in the very susceptible rabbit, at least from twenty to thirty have to be inoculated subcutaneously before the disease can surely be set up; any lesser number is destroyed. If, therefore, in the intestine, here and there at scattered points, individual bacteria are being introduced into the system from time to time, that does not necessitate proliferation and consequent infection; we can easily understand that if the tissues there possess their normal powers, isolated bacteria tend to be destroyed by the cells or the containing leucocytes at the immediate point of entry; and, as a matter of fact, study of the mesenteric glands and the difficulty in obtaining cultures from these, even when sections of the same show relatively abundant bacteria, is clear evidence that this is the case.

ON CERTAIN CASES OF SURGICAL INFECTION.

Only the other evening I was talking over these matters with my colleague, Dr. Armstrong, surgeon to the Montreal General Hospital, and he put to me certain very pertinent questions. "Why," said he, "do we surgeons dread operating upon the robust city man apparently full of health and vigor, who wants to rush in upon us on the Friday or even upon the Saturday afternoon, to have some such small operation performed upon him as, for example, the removal of hemorrhoids, in order that he may be back again at his business on the Monday morning? Why is it that the chances are so greatly against such operation being safe? Why, on the other hand, if we coop up that man for two or three days previously and thoroughly purge him, is the operation a trifle, and we can be practically sure that there will be no complications? The sudden change in his diet and habits can scarce improve the vitality and resisting power of his cells. Why, again, is it our common experience that our best cases, upon which we can operate with the certainty of gaining good results, are those who have been almost bedridden with chronic disease and have been in a condition of invalidism for long months and living upon a restricted diet? Why, again, do we fear to operate upon cases suffering from chronic constipation? Can any more satisfactory explanation of these facts be given than this theory of latent infection and of the possible infection of wounds, not from outside or from the skin, but from bacteria circulating in the tissues, which, under normal conditions, are destroyed and rendered harmless, but which under the abnormal traumatic conditions of the operation are now able to proliferate and set up local disturbances?"

TERMINAL INFECTION.

But, in addition, we can equally well understand that if from some cause or other, as for example, from inflammation along the intestinal tract, whereby excessive numbers of bacteria are introduced, or again in conditions such as are afforded toward the conclusion of long-continued chronic wasting disease, in which the reactive powers of the tissues are greatly lowered, or again where there is temporary lowering of the vitality by injury or operation, then everything favors the multiplication of bacteria so introduced and the development of either localized—so-called cryptogenetic infection—or of general septicemic disturbance.

The admirable and, I would say, classic observations of Flexner,[37] on terminal infections, show in the most vivid light how common it is to have death preceded by such general or local infection by germs totally foreign to the main morbid condition, and amply confirm Osler's[38] well-known remark that "persons rarely die of the disease with which they suffer."

POST-MORTEM INFECTION.

If we accept the conclusions above mentioned, we gain a more correct understanding of what I may term "post-mortem infection" of the body. The usual explanation of the abundant growth of bacteria in the various organs after death is that while there may oftentimes occur an agonal invasion of bacteria, the essential cause of such infection and subsequent putrefaction is the entry of bacteria, more especially through the intestines after death. Birch-Hirschfeld[39] has lately reaffirmed this, and has brought forward certain observations of his own in favor of such a conclusion. While he admits that the agonal invasion may occur even in the absence of demonstrable lesions of the epithelial layer, he concludes that a post-mortem invasion of the internal organs by intestinal bacteria is a constant phenomenon, occurring in the majority of cases about ten hours after death, with especial frequency in the liver, but also met with in the kidneys, spleen, portal and heart blood and bile. It is an interesting point that Birch-Hirschfeld, in this supposed invasion, admits that the various organs show no constant sequence of infection, as again that morbid changes in the intestine have no influence on the time of the appearance of the bacillus coli in the internal organs. It is most interesting to further observe that this period of ten hours mentioned by him corresponds singularly with the maximum period, mentioned by Flexner, at which the blood of the cadaver was found to lose its bactericidal power; and lastly, it is of importance to notice that those who have explained post-mortem infection by this method have never demonstrated, what ought, according to this view, to be most clearly demonstrable, namely, the existence of masses of bacteria in special abundance in the intestinal wall and appearing to be growing through that wall into the blood-vessels and surrounding tissues.

It is impossible from the above observations that I have recorded to come to any other conclusion than that at the moment of death, or shortly before, the lowering of the vitality of the tissues permits a larger number of bacteria than normal to be present in the living state in the blood and lymph. Just as when one removes the blood or takes the tissue juices outside the body and adds to certain quantities of these fluids a fair number of bacteria, the tendency is for certain of those bacteria to be destroyed during the first few hours, then gradually for the remainder to multiply; so in the dead body, after death there would seem to be often, but not always, a preliminary period in which the bactericidal action of the tissues continues and the number of bacteria to be obtained from the tissues by ordinary methods is singularly small: following this there is multiplication. In short, our ordinary methods are imperfect, inasmuch as they only give us results when bacteria are present in relative abundance. As a consequence, it is possible for us, fortunately, often to determine what is the main invading microbe, but even with them, as shown by Flexner's results, the greater the care that is taken, the greater the variety of bacteria which may be found in the body after death.

SUBINFECTION.

But apart from this latent infection and the sudden and acute one to which it may at times give rise, if we admit this normal passage in, and normal destruction of, bacteria by the tissues, there is possible, it seems to me, an intermediate condition which I would term "subinfection," a condition in which, as a consequence of chronic inflammatory disturbance in connection with the gastro-intestinal tract, there may for long periods pass in, through the walls of the stomach or of the intestine, a greater number of ordinary bacteria inhabiting the tract, and, while the bacteria undergo the normal and inevitable destruction by the cells of the lymph glands, the liver, the kidney and other organs, nevertheless, the excessive action of these cells and the effect on them of the bacterial toxins, liberated in the process of destruction, may eventually lead to grave changes in these cells and in the organs of which they are part—changes of a chronic nature. At no individual moment may we find evidence of the presence of large numbers of living bacteria in such organs, but we may find the evidence of their presence in the cells, and may find certain chronic inflammations associated with, or the result of, this overwork of the bacteria-destroying cells. It is possible, I would urge, that there may exist a morbid condition, the existence of which has not so far, to the best of my knowledge, been fully recognized. We must, I think, admit the existence of the following forms of infection:

1. *Fulminating Infection*—In which, from the onset to the conclusion, the tissues are unable to overcome the virus.
2. *Acute Infection*—In which, while at first the bacteria gain the upper hand, the tendency is for the tissues to be stimulated eventually to counteract the germs and their toxins.
3. *Chronic Infection*—In which the tissues have not the power of wholly destroying the bacteria, although they may arrest their activity, and thus the bacteria constantly but slowly gain the advantage.
4. *Subinfection*—In which the tissues readily destroy the invading bacteria, but in which, just as water constantly dropping makes a hole in the stone, eventually, with recurrent invasion, the tissues become worn out, whereupon chronic or acute infection may supervene.

The absolute recognition and determination of this last condition is rendered peculiarly difficult by the fact that any chronic catarrhal or inflammatory condition of the intestines is accompanied by abnormal fermentative changes therein. And thus at the present time it is almost impossible to distinguish and divide conditions which might be due to this combined cell exhaustion and cell intoxication from the intoxication and the disturbances due to increased absorption of soluble poisonous products through the intestinal wall.

Yet certain observations that I have been making during the last two years do, I must confess, lead me to believe in the existence of such a condition of subinfection. In the first place I found these minute diplococcoid bodies peculiarly frequent in the liver cells in cases of hepatic cirrhosis, and since finding these, the more I have myself made autopsies in cases of this condition, and the more I have carefully studied the records of others, the more it has been brought home to me that accompanying ordinary progressive cirrhosis there is a chronic catarrhal condition of the intestines, together with a definite enlargement of the retroperitoneal and mesenteric lymphatic glands. Here it is more especially in the cells at the periphery of the lobule that this presence of these bodies is noticeable, in those cells, that is to say, which are first fed from the blood coming from the portal vessels, and which are again most liable to undergo atrophy and to be affected by the fibroid change occurring in the interstitial tissues.

My first view that these little bodies either taking on a slight or an intensive stain, or seen purely as fine double pigment granules, were directly associated with cirrhosis and indicated a specific micro-organism, was rapidly modified by the discovery that cultures from the cirrhotic livers and from the bile in such cases, while at first tending to give a form of diplococcus, upon subseculture and passage through animals, developed into a form morphologically unrecognizable from the colon bacillus, while frequently absolutely typical colon bacilli were obtained from these organs and from the rest of the body.

But while this is the case, the frequency with which the colon bacillus has been found by other observers, associated with more acute hepatic disease, and with which, in one form—the so-called hypertrophic cirrhosis—other observers have noted its presence, renders it not impossible that this bacillus may have some part to play in connection with the condition.

HEMOCHROMATOSIS.

Recently there came to us a case of well-marked hepatic cirrhosis associated with great pigmentation of the skin and the intense development of the condition known as hemochromatosis. In this, as in other cases of hemochromatosis, there was iron-containing pigment in the liver, the mesenteric glands, the pancreas, and to a less extent in the spleen, kidneys and the heart. What is the cause of this hemochromatosis has been a matter of very considerable conjecture of late years. There is a very full paper on the subject in the last issue of the *Journal of Experimental Medicine,* by Dr. Opie, of Baltimore, a paper so full and thorough that here I need not go into the various theories that have been adduced; I will only say that Dr. Opie comes to the conclusion that the condition is a distinct morbid entity characterized by the wide-spread deposition of the iron-containing pigment in certain cells, and the association of iron-free pigment in a variety of localities in which pigment is found in moderate amount under physiologic conditions. With the pigment accumulation there is degeneration and death of the containing cells, and consequent interstitial inflammation, notably of the liver and pancreas, which become the seat of inflammatory changes accompanied by hypertrophy, while, when the chronic interstitial pancreatitis has reached a certain grade of intensity, atrophy and diabetes ensue, and this last is the terminal event in the disease.

Dr. Maude Abbott, who has been working in my laboratory, on this subject, for some months, has reached somewhat different conclusions. She called my attention to the fact that where there is marked destruction of the blood the spleen may also be the seat of pigmentation, whereas in the diabetic and cirrhotic cases, as again in pernicious anemia, the spleen is not implicated. Examining some of these typical cases of hemochromatosis she reported to me that in some instances, she noted frequent diplococcoid bodies. To a slight extent the deposit of iron-containing pigment is present in a large number of cirrhotic livers which she has examined, and she has been especially struck by the fact that one and all have shown either marked inflammatory disturbance in cases in which such occurs unassociated with cirrhosis, it also occurs in cases unassociated with cirrhosis either of the liver or pancreas. Examining the records of the connection with the intestines or some chronic suppuration elsewhere in the body—conditions in short leading to more or less chronic destruction of the blood. When now I come to study her material more fully, and with the highest power, to my astonishment I find that where this pigment has not clumped together into too large masses, in the liver cells for example, as again in the abdominal lymphatic glands, there are, in a very large proportion of the ultimate fine masses of pigment, reacting to Perl's test and containing iron, distinct diplococcoid forms or bodies. Of this there can be no doubt. In short, the condition of hemochromatosis is of bacterial origin and, just as Hintze,[40] and before him, von Recklinghausen,[41] pointed out that the slightest case of hemochromatosis presents itself merely a brownish coloration of the intestinal walls, so here we may have a succession of cases in which at first only the intestinal walls and the mesenteric glands become the seat of the deposit of this pigment, and to a slight extent the liver, through cases in which the liver is involved and there is associated or accompanying cirrhosis, to cases in which the pancreas also becomes the seat of this abundant deposit of the minute pigment granules, of modified "corpses" of bacilli in the cells. I have no doubt concerning this; the diagram is a faithful reproduction of a portion of one of these livers of hemochromatosis, from a case described by Kretz,[42] which has come through several hands into that of Dr. Abbott. You will see that whereas in certain regions it is dense and it is impossible to make anything out, there are other parts in the cells where these little diplococcoid bodies definitely take on the reaction for iron.

Where we have *diabète bronzé,* or again extensive cirrhosis of the liver with hemochromatosis but without diabetes, there deposit of this iron is so extreme that certain of the cells, more especially at the periphery of the lobules, become little more than a mass of agglomerated iron-containing pigment, and what is more, this pigment is now to be found in the connective tissue at the periphery of the lobule and, as Dr. Abbott points out, and as others have also concluded, the little masses of pigment indicate the remains of liver cells. In fact, the condition is a very extreme one.

PERNICIOUS ANEMIA.

The nature of this deposit of pigment in the liver in conditions of hemochromatosis is identical with, though more extensive than, that first recognized by Quincke, and of later years more especially dwelt on by Wm. Hunter, which is found in the liver in pernicious anemia. There is the same finely granular nature, the same tendency for the pigment to be accumulated in the cells in the immediate neighborhood of the bile capillaries, and here again there is the same reaction with ammonium sulphid, and by means of Perl's test with potassium ferrocyanid. Examining a series of livers from cases of pernicious anemia, I find in them identically the same condition, namely, that whereas under the ordinary high power, or even the ordinary 1/12 oil-immersion, all that one sees is an irregular massing of fine granules in the liver cells, if one examines carefully and conscientiously by means of a yet higher power of immersion-lens, these irregular granules resolve themselves into irregular clumps of stumpy ovoids, as again of minute diplococcoids, and again into isolated diplococcoid bodies which may or may not show a fine halo round them, situated in the liver cells. Nay more, in advanced cases of pernicious anemia, one finds the same bodies also crowded in the very much swollen endothelial cells. In both positions these take on a reaction for iron, but even when stained for iron, as by Perl's test, the diplococcoid nature can be made out in a large number of the isolated masses on careful focusing.

I do not mean to say that all show themselves as diplococcoids; there are numerous isolated granules as again bodies of a more oval shape, and again certain bodies, roughly the same diameter, which often appear to be definitely bacterial in form. But on careful study the number of double bodies, of dots of the same size, is so remarkable and so frequent that the diplococcoid nature of the granules is their especial characteristic.

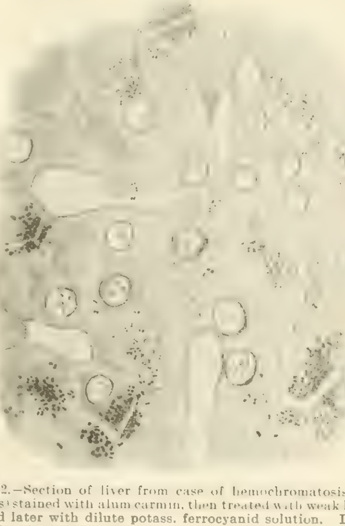

Fig. 2.—Section of liver from case of hemochromatosis (pigmental cirrhosis) stained with alum carmin, then treated with weak hydrochloric acid and later with dilute potass. ferrocyanid solution. Drawn under camera lucida, Reichert 1/18 immersion-lens, ocular 4.

It is now more than a year since my attention was called to the fact that the colon bacillus when virulent is especially liable to set up hemorrhagic inflammation in the lower animals, as again in certain cases in man, so that in hemorrhagic peritonitis we very frequently come across abundant cultures of this form. As Sidney Martin has pointed out, parallel inoculations in lower animals, of the closely allied typhoid bacillus, lead to a non-hemorrhagic disturbance. Thinking over this it occurred to me that very possibly the toxins of the colon bacillus might have some peculiar action on the blood and on the vessels, and by following this train of thought it occurred to me that the toxic substance which Hunter concluded must become absorbed from the upper portion of the gastro-intestinal tract, to explain the pronounced destruction of red corpuscles in pernicious anemia, might possibly be of bacterial origin. The point, I believe first drawn attention to by von Jacksch, and more recently corroborated by Dr. Finley of Montreal, that in typical cases of pernicious anemia there is an absence of hydrochloric acid in the gastric juice, an observation since confirmed by other observers, seemed again to render the abnormal multiplication of bacteria within the stomach extremely probable. With this end in view I suggested to one of my demonstrators, Dr. D. Anderson, that he make a special study of the bacteriology of the stomach in cases of pernicious anemia. This disease is not very frequent, and it is difficult to accumulate any large number of cases, but during the year, Dr. Anderson has studied three of these in the laboratory at the Montreal General Hospital. He has found in all a complete absence of hydrochloric acid, with the presence, however, of considerable quantities of lactic and some butyric acid, and in all three, to my great astonishment, he has obtained by plating pure cultures of the colon bacillus. This colon bacillus has been haunting me these last years, appearing to reveal itself everywhere, and I could hardly believe these results, but Dr. Anderson obtained similar ones in connection with a test-breakfast on one of the patients during life, and was absolutely convinced as regards the correctness of his results; and what is more, on making sections from one of the stomachs, he found numerous diplococcoid forms in the submucous tissue. This I should add was long before I had realized the nature of the pigment in the liver. In order to confirm the result, I asked Dr. Ford to make an independent examination of a case at the Royal Victoria Hospital, under Dr. James Stewart. He gave a test-breakfast to the patient and absolutely confirmed the findings of Dr. Anderson in every respect. In this fourth case plates made from the breakfast gave abundant and pure cultures of the colon bacillus. The form was at first a little abnormal, the colonies were of a more opaque white than usual, but later separate cultures from several colonies gave a perfectly typical form, endowed with motility, and in every respect corresponding to the tests for the colon bacillus.

Thus, then, we have in these cases of pernicious anemia in the first place some chronic inflammatory condition of the mucous membrane of the upper gastro-intestinal tract, leading often to atrophy. In the second place we have the abundant presence of the colon bacillus here in the upper intestinal tract; in the third we have Dr. Anderson's observation of the presence of the modified form of the colon bacillus within the walls of the stomach, and in the fourth, the dead unstaining forms of bacilli—these minute brownish diplococcoid bodies present in the endothelium of the liver capillaries and again heaped up in the liver cells. My own opinion on examining these specimens is that in the majority of cases the bacteria are already dead when taken up into the liver cells, and that we are dealing, as I say, with the corpses of bacteria.

There are very many points in connection with these thoroughly surprising observations which need further elucidation. I have throughout this lecture already referred so frequently to the work of those in my laboratory that I dare say no more; it would be unfair to Dr. Anderson and to Dr. Ford to prematurely publish more concerning their work. There is one point that will probably come to everyone's mind, to which I must briefly refer, that is, why do these colon bacilli in the liver cells and elsewhere in this broken-down form take on the curious brown pigmentation, and actually take up iron? Only last Saturday Dr. Ford showed to me cultures that he had made of the colon bacillus outside the body, which were becoming diplococcoid in shape and which took on this brown staining. He has been able, in short, outside the body, to reproduce both the appearance and the properties of these modified colon bacilli in the tissues. He will later describe his methods.

I am now very careful not to state that the colon bacillus is the primary or the essential cause of either cirrhosis or pernicious anemia; indeed, I think that it is probably not, that in either case there is some primary and underlying factor favoring its entrance into the economy: this, however, I do say, that a study of these conditions does confirm me in the belief that the constant destruction and taking up of excessive numbers of these, and it may be other bacteria of similar pathogenetic powers, does affect the cells and does affect their activity. These observations, therefore,, in my opinion, confirm a belief in the existence of the condition of what I have termed subinfection. Nay more, I believe that in the development of many chronic fibroid conditions, this subinfection will be found to play a definite part. "But," as Plato was wont to remark in a manner strangely and suggestively modern, "this is calculated to afford the subject-matter of another dissertation."

BIBLIOGRAPHY.

1. Quain's Anatomy, (1882) Vol. ii, p. 604.
2. Pflueger's Archiv, Vol. xxxi, 1883.
3. Ibid, Vol. xliii, p. 46, 1888.
4. Jour. of Physiology, Vol. xvi, p. 268, 1894.
5. British Med. Jour., Vol. ii, 1890, p. 491.
6. Centralbl. f. d. Med. Wiss., xxiii, p. 491.
7. Deutsche Med. Woch., p. 197, 1885.
8. Zeit. f. Hyg., Vol. xxii, p. 12, 1896.
9. Ann. de l'Inst. Pasteur, Vol vii, p. 593, 1893.
10. Ibid, Vol. viii, p. 1, 1894.
11. Arch. de Med. Exper., xi, p. 556, 1899.
12. Adami, Abbott and Nicholson: Jour. Exp. Med., Vol. iv, p. 349, 1899.
13. Vorlesungen ueber Allgem, Path., 1882, Vol. ii, p. 188.
14. Zeitsch. f. Hyg., i, p. 3, 1886.
15. Jour. of Path. and Bact., 1893.
16. Riv. Intern. di Med. e. Chir., 1886.
17. Sitzung Ber. d. Kaiserl, Ak. d. Wissensch, Vol. xxvii, Dec., 1895.
18. Deutsche Med. Woch., No. 34, 1892.
19. Berlin. Klin. Woch., No. 32, 1894.
20. Arch. f. Exp. Path., Vol. xxxvii, 1896.
21. Medicine, Vol. iv, p. 570, 1898.
22. Ibid, opp. p. 462; Figs. 8 and 10.
23. Compt. Rendu Soc. de Biol., Feb. 9, 1895.
24. Ref. Medical Week, p. 227, 1895.
25. Berlin Med. Soc., Feb. 6, 1895; Abstr. Med. Week., p. 82, 1895.
26. Zeit. f. Hyg., 22, p. 12, 1896.
27. Ibid, 25, p. 492, 1897.
28. Jour. Exp. Med., Vol. iv, p. 425, 1899.
29. Boston Med. and Surg. Jour., Vol. cxl, p. 177, 1899.
30. Zeit. f. Hyg., 4, p. 353, 1885.
31. Zeit. f. Klin. Med., 18, p. 46, 1890.
32. Med. Record, 37, p. 85, 1890.
33. Jour. Exp. Med., i, 1896.
34. Atti della R. Acad. Med. di Roma, Anno xvi, Vol. iii, Series ii, Rome, 1890.
35. Zeit. f. Heilk., 18, p. 421, 1897.
36. Loc. cit.
37. Jour. Exp. Med., Vol. i, No. 3, 1896.
38. Practice of Med., 1895, p. 132.
39. Ziegler's Bietraege, Vol. xxiv, p. 304, 1898.
40. Virchow's Archiv, 139, p. 459, 1895.
41. Versamml. Deutsche Naturforscher, Heidelberg, 1899.
42. Beit. z. Klin. Med. u. Chir., Heft 15, Vienna, 1896.

Late Payment of Doctor's Bill.—The following is an extract from the will of a citizen of Mt. Pleasant, Ia., and unique from the fact that after so many years the doctor's bill has been paid. Our correspondent who furnished us the item says that it so rarely that any one pays a bill of this kind when it can be avoided, he thinks it worthy of special notice, with which our readers will agree. The extract reads:—"Bejamin Dudley, of Lexington, Ky., saved my life by a surgical operation in the year 1837, and by giving me medical attention for two months. I had nothing wherewith to pay the doctor for his services, but promised him as soon as I was able to pay him I would do so. His usual charges in such cases would be $500. I did not feel able to pay that debt for about thirty years. Since then I have neglected to pay this debt which I justly owe, with 6 per cent. interest until paid. Dr. Dudley having died it will be due his heirs."

NASO-PHARYNGEAL ADENOIDS AS A CAUSATIVE FACTOR IN EAR DISEASES.*

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CHICAGO.

Among the most interesting cases that come before the otologist are those pertaining to postnasal vegetation affecting the hearing, and there are few patients to whom more satisfaction can be rendered than to those so affected. Adenoid vegetation seems not to be restricted to countries, to climates, to sex, to color or race of man. Dr. William Meyer gives the results of his collected evidence of the existence of affections of adenoid growths in various parts of the world, and in various races of man. He says that in Greenland, in 60 Esquimaux children between 6 and 14 years of age Helms only found 16 free from adenoid vegetation. In North Dakota Quarry found adenoid vegetations frequent among the native tribes of Indians, but the growths were very little developed in adults. Cantley of Hongkong reported that native Chinese of the Mongolian race, as also those belonging to the mixed Chinese-Portuguese race, frequently suffer from them, while in Bangkok, Denietzer rarely found the disease among the native Siamese. Meyer concludes that adenoid vegetations are often to be found in varying degrees of frequency in at least three parts of the world, viz., Europe, America and Asia. The Mongolian race is almost as much prejudiced as the Aryan. A cold climate seems more favorable to their development than a warm one. Arslan of Padua, commenting on the frequency of adenoid vegetations in Italy, states that of 300 children examined in schools in Padua, he found the growths present in two-thirds of them. He attributes the preponderating rôle to heredity, a number of his patients showing that their antecedents presented exactly the same symptoms. Balme, who collected statistics on adenoid growths considered as a sign of degeneracy, in examining backward and degenerate children at the Van Cluse Colony, found that of 113 children examined 56 suffered from adenoid vegetation or enlarged tonsils or most frequently both lesions simultaneously. I agree with Meyer, Professor Stoker, Lennox Browne, and others that postnasal growths are just as common among the best classes of society as in the poorer.

Let us consider first what nasopharyngeal vegetation is. It is a hypertrophy of the lymphoid tissue situated in the vault of the pharynx bounded on either side by the orifice of the Eustachian tube, and presents on its surface several vertical furrows which partially subdivide it. The structure covers the roof of the nasopharynx back of the septum, and extends backward on the posterior wall while prolongations are often met with in the fossæ of Rossenmueller and even in the orifices of the Eustachian tubes. Many writers have impressed me by the frequency with which they found various forms of middle ear disease to depend on morbid conditions of the nasopharyngeal mucosa, and it is my opinion, based on several years' experience in the Illinois Charitable Eye and Ear Infirmary and in private practice, that the main factor in producing both suppurative and non-suppurative inflammatory conditions of the tympanic and Eustachian mucous membranes is the presence of naso-pharyngeal adenoids or the condition of the postnares consequent to their removal or absorption. The nasopharynx is an important cavity to the ear, by its relation from the nose through the Eustachian tube, and morbid conditions there readily exert an injurious influence on the ear. Adenoid vegetation may produce inflammation of the middle ear: 1, by constant irritation on account of the obstruction to the circulation of the blood by pressure; 2, by blocking the orifices of the Eustachian tube, partially or completely; 3, by their injurious effect on the general economy of the child and particularly the nerves of special sense; 4, by leaving a postnasal catarrh as a sequela, which sooner or later establishes some form of middle ear disease.

Blake advocates the theory that the first stage of inflammation, hyperemia, is produced in the middle ear by an interference with the return circulation, owing to the pressure exercised by the adenoid mass on the pharyngeal veins and those of the deep-seated tissue.

In children who suffer from adenoid vegetations the hearing is generally very sensibly impaired, and it is the common thing for a child so affected to have questions repeated often and in a louder tone of voice, say nothing of earaches and discharge from the ears. In many cases the Eustachian tube is completely blocked by dry secretions of the postnares. I have observed diminution of power of hearing on the side where the adenoid existed. On the opposite side where the postnasal space was clear the hearing was normal. I have seen cases where the hearing was seriously impaired and the drum membranes normal in appearance, yet with safety I assume the faulty hearing to be dependent on the growths in the nasopharynx. Mr. Bosworth, I believe, agrees with me in this statement.

Mouth-breathing, the most prominent objective symptom of the children affected with adenoids, has an important etiologic bearing on the subject. In this form of respiration the upper part of the lungs is never normally expanded, a fact which can be readily demonstrated by observing the child with normal respiration and one with the sucking respiration of mouth-breathers. The mouth-breather is usually found shallow through the upper part of the chest, and with very small lung capacity. The breather does not inhale sufficient air; the blood, therefore, is not sufficiently oxygenized and is surcharged with carbonic acid. This excess of carbonic acid retained in the blood causes the lassitude, headache, stupidity and sleepiness commonly met with in mouth-breathers, and gradually renders the nerves of special sense less active and responsive to stimuli. This excess of carbonic acid and lack of oxygen, I also believe to be the cause of loss of appetite, malnutrition and general cachexia so often found accompanying mouth-breathing. We frequently meet with children affected with adenoids, who are not mouth-breathers, and these children are plump, well-developed and of healthy appearance, although they usually have some ear complication.

Lennox Browne found that not only were these growths where the tonsils were not enlarged, but that in most cases of deafness formerly considered due to enlarged tonsils there was coexistence of adenoids; that failure to cure deafness after tonsillotomy would be less frequent if the vault of the pharynx were always explored and cleared of additional lymphoid overgrowth. It was also probable that adenoids do not disappear at so early an age, and several cases are quoted in which they were present and were the cause of deafness in patients over 21 years of age.

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*Read before the Sixth International Otological Congress, London, Aug. 9, 1899.

Alderton believes that disease of the nasopharynx is directly causative of middle ear disease in from 35 to 88 per cent. of all cases. White states that out of 565 cases treated for nasopharyngeal affections, he found disease of the middle ear in 197. Of the whole number, 134 had hypertrophy of the third tonsil, in which 62 of them, or 20 per cent., had impaired hearing. Bronner, before the British Medical Association, stated that on examination of 250 school children he found 20, or 8 per cent., suffering from adenoid vegetations. Eighty-five per cent. of 125 cases carefully examined showed symptoms of past and present affections of the middle ear. Laveand calls attention to cases in which adenoid vegetations produce total deafness in children. He considers that a cause of deaf-mutism, and says the removal of the vegetations may act as a cure.

A number of cases of postnasal growths in the newborn have been reported, and Sendziak believes that many children develop adenoids in the first years of their lives, and frequently become deaf from this cause, and are not able to learn to speak or forget what they do know.

According to many authors it has been shown that adenoids are much more frequent among deafmutes than among other children. In my examination of 26 children for deaf-mutism. I found only 4 free from postnasal adenoids; 16 of those examined showed marked facial deformity from mouth-breathing.

Frankenberger cites many authors who have investigated the frequency of adenoid vegetation in normal children: Meyer, 1 per cent. in 2000 cases; Schmiegenow 5 per cent. in 581 examinations; Wroblewski, 7 per cent. in 650 children; Kafemann, 9 per cent. This does not show a very large percentage, but when we arrive at the deafmutes, we find Lemcke reports 58 per cent.; Wroblewski, 57.5 per cent.; Peisson, 58 per cent.; Frankenberger, 59 per cent.; Albrich, 73 per cent.

The principal function of the Eustachian tube is to supply air to the middle ear. This equalizes the atmospheric pressure on the outer and the inner sides of the drumhead. If the postnasal cavity is blocked with the presence of adenoids, and we have a mechanical obstruction of the orifices of the Eustachian tube, either from the dried secretion or proliferation from the adenoids, the air-supply to the middle ear is partially or completely cut off. This inequality of atmospheric pressure causes a contraction of the drumhead, and such a condition will to some extent cause deafness, which will increase as the further pathologic process develops ankylosis of the ossicles and atrophy of the tympanic membrane.

Wright Wilson reports 235 cases which he had treated for postnasal vegetation. He found the proportion of sex about equal. Ten cases presented deafness as the only symptom. Wilson points out the importance of exploring the nasopharynx in every case of deafness.

Halbies found adenoids to be the cause of inflammatory process in the middle ear in 53 per cent.; Meyer, 78.8 per cent.; Hartmann, 74.2 per cent.; Ingals, 34 per cent.; Braislin, 58 per cent.; Max Schaefer, Bremen, reports a series of 1000 cases of adenoid growths of the pharynx treated by himself. Of these, 768 were treated surgically, 99 with the galvanic cautery, 81 by local applications, 52 were merely observed. In 467 cases there was deafness; in 107 otorrhea; 20 were improved and 331 cured.

I coincide with Harrison Allen and Sisson, who hold that there are many children in homes for the feeble-minded and idiots all over the world who are affected with this disease, and who by a comparatively trifling operation could possibly be restored to usefulness and their families. Interference with the condition may or may not complicate the case. Much depends on the relation of the Eustachian orifice to the vault of the pharynx. If the orifice be situated high up, a comparatively small amount of growth will block it, and cause an auditory trouble; but if it be low down, there may be extensive vegetation without the Eustachian tube being implicated. It would be obvious to mention every analogous case reported of deafmutes who, after the removal of adenoid vegetations, gave evidence of hearing and began to speak some words.

The general belief that adenoid vegetations are never present after the age of 30 is contradicted by Conetoux of Nates, who operated on a man of 65 to cure a marked unilateral deafness. Adenoids are apt to become smaller and more dense as age advances, yet I have found vegetations in ages above 60, and frequently between 30 and 40. They do not differ histologically from adenoids in children. It is not uncommon to observe these formations in the aged who are hard of hearing.

Notwithstanding all the writings of the last ten years, I can not say that the pathologic enlargement of the lymphoid tissue of the nasopharynx has received sufficient attention in the world's medical text-books.

If the symptoms of these growths were more generally recognized by the family physician, and their removal accomplished, we would not find so many chronic suppurative and non-suppurative inflammations of the middle ear with the history dating back to an attack of diphtheria, scarlet fever, measles, or other fevers. I believe that these obnoxious growths are of great importance to the health of the child, not only of the present, but of the future development of all faculties of children.

As to treatment, it is never too early nor is it too late. At the first recognition of existing growths, the operation should be performed at once, by whatever method best suits the case in hand. I do not believe in chemical cauterization or caustics, nor even a thermal cautery, especially in children, where it requires so many séances to accomplish it. Curetting is the only true basis of treatment and trustworthy of consideration. It may be done with Trautman's, Hartman's or Gottstein's curette, Meyer's ring knife, Lowenburg's forceps, and other various modifications. Such operations are recommended by Richard Hovell, Field, Lennox Browne, Holitzer, Lowenburg, Trautman, Bronner, Goldstein, Rousseaux, and many others. I am not a believer in general anesthetics in children over the age of 12 years, as local anesthesia after this age makes such an operation absolutely free from danger; but there are some cases where a general anesthetic must be administered, especially in refractory children and nervous adults. In children it is advisable to anesthetize in a sitting posture, and I prefer bromid of ethyl to any other of the numerous anesthetics. It is easily administered, anesthesia is quickly produced, and is of sufficient duration for the expert operator to remove both tonsils and adenoid vegetation, if necessary. The child recovers from the anesthetic quickly enough to clear its throat and prevent strangulation from hemorrhage. As it is common to find children suffering from adenoid vegetations to be constitutionally affected, restorative tonics, nutritious food and plenty of outdoor fresh air are indicated after the operation.

BIBLIOGRAPHY.

Meyer: Hospitals-tidende, Copenhagen, Nos. 3, 6, 7, 185

Balme: Regis. These de Bordeaux, 1895.
Arslan: La Med., 1895.
Laveand: La Sem. Med., 1890.
Von Klein: Trans. of Internat. Med. Cong., Rome, 1894.
Bronner: British Med. Jour., 1889.
Lennox Browne: British Med. Jour., 1889.
Wright Wilson: Med. Press and Cir., London, 1890.
Ingals: Journal Am. Med. Assn., vol. xxiii, 1894.
Alderton: Archives of Otol., xx, 1894.
Kafemann: Revue mensuelle des Mal., de l'enfance, 1892.
Max Schaeffer: Deutsche Med. Woch., 1892.
Coulloux: Rev. Gen. de Clin. et de Ther., 1888.
O'Toole. Journal Am. Med. Assn., xxx, 1898

THE PAPILLITIS ACCOMPANYING BRAIN TUMOR.*

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The papillitis accompanying brain tumor must, according to Unthoff, have reached an elevation of at least two-thirds of a millimeter, before it can be properly referred to as choked disc, and before it can be properly classified under the latter term. Although bilateral in the vast majority of cases, it is often more intense on one side than on the other, and may be unilateral. This form of papillitis, known as "choked disc," may be briefly described as follows: It is of grayish-red color, presents diffuse cloudiness, radiating stripes, knob-like elevation, borders indistinct, veins wide and tortuous, arteries small, vessels hidden in part, abruptly bent at the border of the papilla, while hemorrhages and white spots appear on the disc and in its immediate vicinity. The diameter of the papilla may be three times as great as the normal diameter. In high grades the borders of the disc may be entirely obliterated.

Macroscopic conditions.—An ampulliform swelling of the optic nerve sheath immediately back of the globe, the distension of the sheath extending for a varying distance along the nerve, is present in by far the greater number of cases. This swelling is due to the presence of fluid in the intervaginal space. Leber and Broadbent[1] have observed such ampulliform distension without papillitis. Papillitis also occurs in a few cases without marked distension of the optic nerve sheath. In some cases the optic nerve itself appears to be larger than normal.

At the inner margin of the sclera, at the foramen scleræ, the diameter of the nerve is narrowest; immediately within the opening the tissue of the disc expands, crowding the posterior layers of the retina away from the margin of the choroidal and scleral opening, and the disc forms a crater-like elevation which reaches a height of 0.5 to 2.5 mm. The depression in the center corresponds to the physiologic cup.

Microscopic appearance.—The microscopic conditions present in five cases examined by the writer are as follows, the elevations one to two millimeters:

Case 1.—No ampulliform dilatation exists. The nerve fibers present but little change either in the papilla—other than change of direction—or in the nerve trunk. Great distension of veins and diminution in the size of the arteries at and beyond the lamina cribrosa, is evident. The walls of the vessels are not changed, and there is no increase in the number of capillaries. There are few minute hemorrhages near the surface and in the center of the papilla; hemorrhages into the deeper layers of the retina in the immediate vicinity of the disc, evidently from capillaries. Moderate small cell infiltration about the walls of the vessels is evident, as is found in infectious inflammatory processes.

Marked serous edema of the tissues of the disc extends into the nerve-fiber layer of the retina, to a distance of 1.5 to 3 mm. from the margin of the foramen choroidæ. The connective tissue elements of the disc immediately above the choroid are greatly distended, pushing the deeper layers of the retina away from the margin of the choroid—which membrane is not disturbed—for a distance of .5 to .75 mm. The ganglion cells are intact, the pigment layer of the retina much disturbed, and there are numerous small cells in the intervaginal space.

Case 2.—The intervaginal space is moderately distended, and there is simple extensive edema of the tissues of the disc, but no small-cell infiltration. The optic nerve trunk is edematous. The deeper layers of the retina—below the ganglion cell layer—are pushed away from the margin of the choroid at the foramen choroideæ, by the edematous tissue of the disc. There is no appreciable change in nerve-fibers, other than a moderate change in direction. The veins anterior to the lamina cribrosa are dilated, the arteries are reduced in size, and posterior to the lamina cribrosa the central artery appears to be slightly enlarged; it is certainly not smaller than normal. The ganglion cells are intact.

Case 3.—There is marked distension of the intervaginal space, the nerve-fibers apparently unchanged, except in their course, the arteries reduced in diameter and the veins distended in the papilla and at the cribriform plate. Posterior to the cribriform plate the arteries are not reduced in size, but appear to be larger than normal. There are some small hemorrhages from capillaries in the ganglion cell layer in the vicinity of the disc. A few foci of degeneration and small-cell infiltration are found at the apex of the papilla, and some small-cell infiltration posterior to the lamina cribrosa. The ganglion cells are less numerous than normal, and some of those that remain are undergoing degenerative changes. The disturbance in the retina at the foramen choroideæ is as described in the preceding cases.

Case 4.—This is as in Case 3, with the following exceptions: There are a number of small hemorrhages into the outer reticular and outer nuclear layers of the retina in the immediate vicinity of the disc, and the nerve trunk posterior to the lamina cribrosa is edematous.

Case 5.—Enormous distension of the intervaginal space exists. The artery and vein posterior to the lamina cribrosa are apparently smaller than normal. At and anterior to the lamina, the arterial trunks are small and the veins engorged. This was the only case in which there appeared to be constriction of the artery posterior to the lamina cribrosa. The enlargement of the papilla is apparently due to simple edema. The edema of the nerve trunk is more pronounced between the nerve-fiber bundles, but there is evidence of limited edema of the bundles themselves. The retina is pushed away from the foramen choroideæ by the edematous tissue of the papilla. The ganglion cells are reduced in number and undergoing degenerative changes. There is no appreciable small-cell infiltration.

Summary.—Distension of the intervaginal space exists in all but one case, infiltration of the small cells in the sheath in one case and in the papilla—not very marked—in two cases. The arteries are small at and anterior to the lamina cribrosa in all cases, and small posterior to it in one case. The veins are dilated anterior to, and reduced in diameter posterior to, the lamina cribrosa, the ganglion cells undergoing degeneration in two cases. The retina is pushed away from the choroidal foramen and the retinal pigment disturbed in all cases. The choroid is intact. There are hemorrhages from the capillaries.

In three cases of papillitis which developed a few days before death, Ulrich[2] found edema of the nerve trunk and compression of the retinal vessels within the nerve.

It must be conceded that in the papillitis accompanying brain tumor there are two varieties which merge imperceptibility, the one into the other. The typical example of one form is a simple edema of the disc. The typical example of the other form is the violent inflammatory affection of the nerve and disc sometimes extending to the retina. Both may be accom-

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panied by the ampulliform distension of the intervaginal space.

Effect on Vision.—Diminution in vision is sooner or later the rule in papillitis, but it may be present for years without diminishing the acuteness of vision. Mathews[3] reports a case of 3½ years' duration in which the vision was unimpaired. Knies [4] mentions a case in which sinuosity of the vessels and green blindness was all that remained after recovery from papillitis. The writer observed a case of double papillitis which had existed for some months before it was seen by him. The papillitis persisted for 1½ years and then subsided, resulting in total loss of vision in the right eye, disc pale, and vision of 20/30+ in the left eye with disc of almost normal color. The papillitis was apparently of equal severity on both sides.

Various forms of scotoma may be present, sector-shaped defects, central scotoma, absolute or relative; color defects; concentric narrowing of the fields of vision; complete blindness.

The diminution of vision—direct effect by involvement of chiasma, tracts, or intracerebral course of optic nerve fibers by the neoplasm or by pressure, not considered—is due to degenerative processes in the papilla and to retinal changes consequent on impairment of nutrition to the anterior layers of the retina, particularly to the ganglion cell layer, from constriction of the vessels and from hemorrhage. The subsequent regressive changes, which are accompanied by the contraction of inflammatory products, are also factors. It is very probable that sector-like defects are in many cases occasioned by an interference with the nutrition to the corresponding part of the retina by blocking of the arterial branch, death of the ganglion cells resulting. The great variations in visual acuity are due to varying intracranial pressure on tract or chiasma.

Theories.—Von Graefe's[5] theory regarding the production of choked disc was the first to attract much attention. It was essentially that of a venous stasis occasioned by obstruction to the return of venous blood from pressure on the cavernous sinus. This theory was disposed of by Sesemann[6], who demonstrated rich anastomosis between the superior orbital vein and the facial vein. Von Graefe also advanced the hypothesis that a neoplasm in the brain sets up a meningitis which in turn produces a descending neuritis. It is well known that in many cases there is no meningitis, also that neuritis may improve and may again relapse.

The theory of the production of papillitis by pressure due to dropsy of the optic nerve sheath accompanying increased intracranial pressure arose, after it was experimentally demonstrated by Schwalbe.[7] Schmidt,[8] and Manz[9] that the subvaginal lymph space was in direct communication with the subarachnoid space and could be readily injected from the cranial cavity.

The theory is well set forth by Fuchs,[10] as follows: "In consequence of accumulation of fluid in the intervaginal space, a stasis of lymph occurs in the trunk of the optic nerve itself, particularly in the region of the lamina cribrosa, the lymph spaces of which communicate with the intervaginal space. The edema of the lamina cribrosa causes a compression of the central vessels—a compression which makes its influence felt sooner and to a higher degree in the central vein of the optic nerve than in the central artery. As there is constantly pouring into the papilla through the artery a quantity of blood which can not be completely carried away again by the contracted central vein, venous engorgement of the optic nerve and consequently swelling of the latter are developed. This swelling of the nerve leads to its incarceration at that spot where it fits so tightly in the foramen scleræ, and consequently extreme edema develops in the strangulated papilla. Neuritis having this origin is hence not to be regarded so much in the light of an inflammation proper as of an inflammatory edema, and is accordingly designated by the name of engorgement neuritis, or choked disc."

Shulten[11] claims to have injected substances into the cranial cavity, causing increased intracranial pressure, after which he found signs of beginning papillitis.

H. Jackson[12] and Annuske[13] have shown that the conditions that produce hydrocephalus do not produce papillitis so frequently as does brain tumor.

Leber's hypothesis is that the products of the tissue metamorphosis of new growths mingled with inflammatory transudations act as irritants, enter the sheath of the optic nerve with the cerebrospinal fluid, and give rise to a neuritis.

Deutschmann[14] rejects the theory of Schmidt and Manz, and holds that papillitis is an inflammatory condition like the neuritis of meningitis and albuminuria. Distension of the optic nerve sheath by non-irritating fluids failed to produce papillitis, but the veins became engorged and the arteries were reduced in size. Some retinal hemorrhages also occurred. Some optic neuritis was set up when fluid containing tubercle bacilli was carried into the subvaginal space. Deutschmann holds that the lymph currents of cerebrospinal fluid are centrifugal, and that increased pressure favors the process. What the irritants that produce papillitis are is not determined. They are either chemical or parasitic. Deutschmann is of the opinion that they are parasitic. He thinks that the tissue in the immediate vicinity of a new growth is favorable to the development of bacteria. In his examination of pathologic material he always found that compression of the vessels, when it occurred, took place anterior to the lamina cribrosa and inferred that it was the result of the papillitis, not the cause.

Examination of pathologic tissues leads us to the following conclusions: 1. In many cases of papillitis there is little evidence of true inflammation, but the condition is that of an engorgement edema. 2. In a number of cases there is evidence of marked inflammation. To the former class belong the cases of greatest elevation of the papilla, the typical *Stauungspapilla*—to the latter belong the cases of slight elevation, intensely injected disc, with a tendency to extension of the process into the retina, hemorrhages, plastic exudation, etc.—the true inflammatory papillitis.

Frequency of occurrence of papillitis in brain tumor.—Oppenheim[15] estimates that optic neuritis is present in 82 per cent. of the cases of brain tumor. Gowers is of the opinion that it is present in four-fifths of the cases. Knapp[16] found 11 cases of neuritis and 2 of atrophy in 18 cases of intracranial tumor—72.2 per cent. Annuske and Reich found neuritis present in 95 per cent. of the cases examined. Dana[17] estimates it at 80 per cent. In Bernhardt's table of 485 cases, an ophthalmoscopic examination was made in 154 cases, and choked disc found in 104—66.2 per cent. In 601 cases collected by Martin,[18] the fundus was examined in 590 and optic neuritis or atrophy found in 77.3 per cent. In 27 cases described by Bramwell, [19] 24 were examined ophthalmoscopically and 20 found to have, or to have had, optic neuritis—83 per cent. The averages of those given would be 78.2 per cent., which is probably very near to the actual frequency.

Relative frequency in tumor of various parts of the brain.—From all of the cases that I have been able to collect in the limited time at my disposal, with the addition of cases observed by myself, I have prepared the following table giving the percentage of choked disc or neuritis in the cases examined with the ophthalmoscope. Cases tabulated as amblyopic or with optic atrophy, although many of the latter were probably post-neuritic, have been omitted, except where it is stated that the atrophy was post-neuritic.

Location.	No.	No optic neuritis.	Unilateral	Double optic neuritis.	Per cent.
Frontal lobes	64	12	4	48	80.3
Temporo-sphenoidal	24	9	0	15	62.5
Motor area	113	46	3	64	59.2
Parieto-occipital	33	4	3	26	87.8
Brain surface	13	4	0	9	69.2
Centrum ovale	58	17	2	39	70.7
Corpora quadrigemina	19	0	0	19	100
Basal ganglia	36	15	0	22	61.1
Multiple	39	11	2	26	46.6
Corpus callosum	12	7	0	5	41.7
Pituitary body	18	9	0	9	50
Pineal gland	1	1	0	0	0
Crura	5	1	0	4	80
Pons	50	20	5	25	60
Cerebellum	164	21	4	139	87.2
Base of cranium	10	1	0	9	90
General	10	3	4	11	83.3
Totals	677	180	27	470	69.4

Diagnostic importance.—The following quotations from the writings of a number of prominent neurologists indicate the diagnostic value of optic neuritis from their point of view. Gowers[20] says: "The most common causes of optic neuritis are encephalic diseases, and of these, tumor is incomparably the most frequent. Neither the nature, size nor the seat of the tumor appears to exercise much influence on the occurrence of neuritis." Otto Schwartz says: "The most important symptom in brain tumor is optic neuritis, double sided and not combined with retinitis." Dana's[21] view is that: "Optic neuritis is one of the most frequent and important of all of the general symptoms of brain tumor." C. P. Knapp[22] says: "Optic neuritis is the most important general symptom of an intracranial growth," and Oppenheim[23], *Die Stauungspapilla ist zweifellos das wichtigste Symptom des Hirntumors.* The view of Knies is: "Typical choked disc is almost the most important symptom in the diagnosis of brain tumor of whatever kind or wherever situated."

The causes that produce papillitis may be classified as follows:

Local: Diseases of ethmoidal, frontal and sphenoidal sinuses, cellulitis of orbit, periostitis of orbit, wounds of orbit, tumors of orbit, thrombosis of the orbital veins and their tributaries, wounds or tumors of the optic nerve, wounds of the globe.

Intracranial: 1. Meningitis: traumatic, tubercular, syphilitic, pyemic, epidemic cerebrospinal. 2. Tumors. 3. Abscess. 4. Aneurysm.

General Causes: Acute febrile diseases, emphysema of lungs, albuminuria, uterine diseases, influenza, anemia, diabetes, malarial poisoning, inherited or acquired syphilis, poisoning from lead, leucocythemia, pyemia, acromegalia.

The early stage of papillitis produced by any of the above causes, unaccompanied by other pronounced symptoms could not be distinguished from the early stage of the papillitis accompanying brain tumor, but after papillitis is established its appearance is sufficiently characteristic to enable the observer to eliminate many of the causes enumerated.

Causes that may produce a papillitis indistinguishable from that produced by brain tumor may be classified as follows:

Local: Tumors of the orbit, thrombosis of the orbital veins, tumors of the optic nerve and diseases of ethmoidal, frontal and sphenoidal sinuses.

Intracranial: 1. Meningitis: traumatic, tubercular, syphilitic (?), epidemic cerebrospinal. 2. Abscess.

General Diseases: Acute febrile diseases, influenza, inherited or acquired syphilis, leucocythemia.

In the absence of other pronounced symptoms the papillitis would be of no diagnostic value, but it seldom happens that we are not able to exclude the local and general causes mentioned, and the diagnosis may be narrowed down to a differentiation between a papillitis caused by tubercular or syphilitic meningitis, abscess or brain tumor. If careful histories of the cases are taken, meningitis and abscess may be eliminated in almost all cases, but in a small number it will require long observation to determine the cause.

Papillitis of the choked disc variety, with accompanying confirmatory symptoms, is of great diagnostic value in brain tumor, but when not associated with confirmatory symptoms it is of little value.

Localizing value.—If we consider the localizing value of neuritis, whether unilateral or double, in cases in brain tumor, a glance at the first table will convince one that the papillitis alone is of no value whatever as a means of localizing the tumor. Tumor of the corpora quadrigemina gives the highest percentage—100 per cent.; next comes tumor of the parieto-occipital region—87.8 per cent—with tumor of the cerebellum a close third—87.2 per cent. Tumors of other parts of the brain follow so closely, however, that it would be folly to venture a guess as to location from this symptom alone.

In regard to the signification of unilateral papillitis, the following table, which is that of Martin with some additions, indicates its diagnostic value.

Location.	On side of lesion.	On opposite side.	Total.
Frontal	10	2	12
Temperosphenoidal	5	0	5
Motor	14	3	17
Parieto-occipital	2	4	6
Multiple	2	0	2
Basal ganglia	1	0	1
Centrum ovale	1	2	3
Corpora quadrigemina	1	0	1
Pituitary	0	1	1
Pons and medulla	4	2	6
Cerebellum	1	2	3
General	..	1	1
Total	41	17	58
Per cent	70.7	29.3	..

The greater frequency of the occurrence of unilateral optic neuritis on the side of the tumor is conclusively shown by the table, but we find that this fact is of no importance except in the frontal, temporo-sphenoidal and motor portion of the cerebrum. In tumor occurring in these portions of the brain, the proportion is as 4 to 1 in favor of the tumor being on the side of the brain corresponding with the neuritis.

In regard to the kind of tumor, little can be determined by the papillitis. It is known that papillitis is most often absent in tubercular tumors, most frequent in glioma and cysts.

The size of the tumor appears to have no bearing on the development of papillitis.

Unilateral papillitis may be produced by direct implication of the nerve in the new growth, but this is only observed in a minority of the cases.

BIBLIOGRAPHY.

1. Jahresb. f. Aug. 1872, p. 359.
2. Archiv. f. Oph.. Leipzig. xviii, p 53.
3. Trans. 5th Internat. Oph. Cong., 1876.
4. Edited by Noyes, p. 141.
5. Graefe's Archiv., B. vii, 1860.
6. Reichert's u. du Bois' Arch., 1869, s. 154.
7. Centralbl. f. d. Med. Wissensch., 1869.
8. Graefe's Archiv., B. xv, 1869.
9. Centralbl. f. d. Med. Wissensch., 1870, No. 8.
10. Text-Book of Oph., 2d Ed. (Duane), p. 484.
11. Knapp: Intracranial Growths. 1891.
12. Oph. Hos. Rep., 1865, '66 and '73.
13. Graefe's Arch., B. 19, 1873.
14. Ueber Neuritis Optica, 1887.
15. Arch. f. Psych. u. Nervenheil., xxi and xxii.
16. Intracranial Growths, 1891.
17. Diseases of Nervous System.
18. Lancet, London, ii, 1897.
19. Brain, i, 99, p. 1.
20. Med. Oph., 1890, p. 75.
21. Diseases of Nervous System, 1892, p. 383.
22. Intracranial Growths, 1891.
23. Arch. f. Psych., xxi and xxii.

DISCUSSION.

Dr. G. E. de Schweinitz, Philadelphia, Pa.—The interesting microscopic observations of Dr. Weeks are a very important advance in our knowledge of this interesting topic. I have nothing to say in regard to the theories which he has briefly reviewed, but I would like to add a word as to the frequency of papillitis in brain tumor. We are all acquainted with the papers of Lawford and Edmunds, who analyzed 107 cases, and it is interesting to observe the areas of the brain in which tumors may exist without papillitis. In general terms tumors toward the convexity of the brain do not furnish as many cases of papillitis as tumors of the base. Tumors of the cerebellum nearly always produce papillitis and, indeed, fully 80 per cent. of intracranial growths sooner or later cause optic neuritis. Tumors of the motor area do not always cause papillitis, as is shown by a recent case which I have observed and in which a tumor as large as a hen's egg existed in the motor area without choked disc. Optic neuritis is said not to occur with tumors of the medulla. I examined one patient, a woman, with all the signs of hysteria and with normal eyes, and in whom after death we found a tumor of the medulla as large as a small marble. It is an interesting fact that many cases of tumor of the cerebellum produce not only choked disc but early loss of vision. Choked disc *per se* does not lead one to diagnose brain tumor, but taken with other signs it is of paramount importance.

Dr. H. M. Starkey, Chicago—I wish to call attention to the usefulness of the X-ray in the diagnosis of these cases. It has not been my fortune to see *very* many such cases, but it happened recently that two patients were brought to me on the same day, both of whom presented double-choked discs. In each I advised the use of the X-ray, and in each the skiagraph showed changes in the brain. In the one, the skiagraph showed but a faint shadow in the center of the frontal lobes, while in the other there appeared to be an extensive thickening of the meninges, or an infiltration of the brain substance or of the bone throughout the whole supraorbital and anterior frontal region. In the first an operation was performed and a cyst about the size of an English walnut was found in the left anterior lobe of the brain, at the point indicated by the faint shadow in the radiograph. The fluid or gelatinous contents of the cyst explained why the skiagraphic shadow was not more definite. This patient also illustrated the well-known fact that in many cases of brain tumor we may not see choked discs unless the eyes are frequently examined. I had seen this patient about ten days before, and a careful examination showed nothing save a slight edema and a slight tortuosity of the veins. Within a week or ten days the swelling had amounted to 3 mm., but soon subsided and the case presented an appearance almost like that of albuminuric retinitis, and within two or three weeks very little change from normal was to be noted, so if the case had not been seen at a favorable time, we might have entirely overlooked this symptom. The vision was practically normal throughout. The second patient was a boy 9 years old, totally blind for two or three weeks before I saw him. He was so ataxic and uncertain in his gait that he could scarcely walk. No operation was performed, but his physician informs me that there has been a gradual improvement in all the symptoms except that there has been no return of sight.

In the first case the cyst refilled within a few weeks, requiring another evacuation, soon after which he passed from my direct observation. The cyst filled again and a large cerebral hernia occurred. He died in about four months after the first operation. Unfortunately no necropsy was permitted. It was stated that choked discs with great swelling recurred before death.

Dr. W. L. Pyle, Philadelphia—I would like to ask the essayist to discuss the subject of arterial pulsation as a means of a differential diagnosis between papillitis from brain tumor and from nephritis.

Dr. H. Gifford, Omaha, Neb.—It should not be forgotten that because the patient doesn't die within a reasonable length of time we need not necessarily change our diagnosis of brain tumor with papillitis. I remember a case of choked disc in a man who, after years of good health finally died of pneumonia, and at the autopsy they found evidences of an old brain tumor which had undergone degeneration and partial resorption. I have had several cases of pronounced choked disc, and every sign of a very serious nervous lesion where I felt that I must give the gravest prognosis. One of these patients, a young girl, who is now teaching school, a year and a half since I first saw her, has gotten rid of her staggering gait and other severe symptoms, though she still has some uncomfortable feelings at the back of the head. I have had one or two other cases where the patient has apparently gotten well, but it is a question whether they were not after all cases of brain tumors. As to the question of whether choked disc is a true inflammation, as Leber would have us believe, or merely an edema, it seems to me that the clinical evidence is worth considerable. Where you have an apparent inflammation of the nerve trunk, that exists for several months or a year, and the patient eventually recovers with a vision of 20/30 as in one of the cases reported by Weeks, or where the patient is practically blind for several months and then recovers good sight, as in a case seen by me and another reported by Macewen, it is strong evidence of something akin to mechanical edema. An inflammation so long and severe would certainly do more permanent harm. Just why cerebellar tumors produce more papillitis is best explained perhaps by the case of Hahn. He reported a case in which the cranium was trephined and the brain punctured, and the patient lived for a year, without improved vision; after death a cyst was found, which had pressed on the veins of Galen, just as a cerebellar tumor *might* do.

Dr. C. H. Williams, Boston—In this connection I would like to mention two cases—one where there was a papillitis in each eye, but no disturbance of vision for a period of three years. The young woman kept on with ordinary work and the family was skeptical of the diagnosis, but after a short illness she died and a tumor of the cerebellum was found at autopsy. In the second case I have watched the vision carefully for more than a year and the patient had, with glasses, normal vision in each eye. There has been during all that time a marked papillitis with no other change in the fundus. She has occasional headaches and attacks of dizziness, especially on getting up quickly. She is going on with her work as a school teacher, and we are simply watching for developments. You may have normal vision and normal brain function for a very considerable period.

Dr. C. F. Clark, Columbus, Ohio—I wish to call attention to the liability of error in making the diagnosis by the ophthalmoscope, by the men who are practicing neurology and who are not as skilled with this instrument as the ophthalmologist. I have under observation a patient who has been for some months under the care of two of New York's best neurologists, both of whom pronounced the case one of brain tumor. Three ophthalmologists have seen the case and all declare that there is no papillitis, but there is simply a large number of vessels about the disc, some of which are tortuous, and this, with the history given by the patient's friends, led to the diagnosis and changed the whole course of the patient's life and that of the family as well.

Dr. Huizinga—About a year and a half ago I was called out of the city to see a man who had suddenly gone blind. Examination showed complete optic nerve atrophy in one eye and a condition of choked disc in the other. I found that he had been on a spree for a few days and came home blind. A diagnosis of brain tumor that had existed for some time was made, and he had perhaps been blind in one eye for a long time without knowing it, until as a result of this spree, perhaps, a rupture of the blood-vessel had brought on the sudden blindness. The autopsy finally established this theory.

Dr. A. A. Hubbell, Buffalo, N.Y.—Dr. Weeks referred to the etiology of choked disc, and I, for one, believe that most of these cases are inflammatory in character though there may be, now and then, a case where it is a mechanical edema. I have been led, during the last year or two, to a consideration of the effects of toxic materials in the blood in producing inflammation. There certainly can not be an inflammation without cause, and in many of these obscure cases there is a toxin, the product, perhaps, of processes in the intestinal tract, or other parts of the body, that has a special action on the optic nerve. It is coming to be believed more and more that malignant disease—and most brain tumors are malignant—is of parasitic origin, and is it not possible that it also generates some toxic substance which produces the optic neuritis so often seen in connection with brain tumor?

Dr. J. E. Weeks, New York City—What particularly impressed me in the examination of the pathology of these cases was the fact that the ganglion cells in certain portions of the retina were destroyed, and it seems to me that the contraction of the field of vision and the concentric scotoma met with are due to destruction of the peripheral neurones rather than any direct effect on the nerve-fibers.

In regard to the diagnostic value, the study I have made has convinced me that the presence of a tumor in any particular part of the brain is not determined by the papillitis. We find papillitis most frequently accompanying tumors affecting the corpora quadrigemina, next with those of the temporo-sphenoidal lobe and next with those of the cerebellum. In 18 cases of tumor in the pituitary body there was papillitis in 50 per cent. There is, in all probability, some diagnostic value to be attached to cases where the papillitis is most marked in one eye. In 14 cases of tumor of the frontal lobe, 12 showed papillitis on the side of the tumor and 2 on the opposite side. In tumor of the cerebellum the presence of papillitis, more marked on one side than the other, is of no value whatever. I am not familiar with the study of the arterial pulse in cases of papillitis.

The question whether the condition of the optic nerve is an edema or an inflammation has engaged my attention a great deal. I am convinced that, in certain cases, it is an edema and not an inflammation. In the examination of five cases I found no evidence of inflammation.

DIAGNOSIS AND TREATMENT OF MIDDLE EAR DISEASES,

WITH A NEW DIAGNOSTIC SYMPTOM OF EUSTACHIAN STRICTURE.*

BY JAMES H. FARBER, M.D.
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What are we doing for middle ear troubles? Are we doing all that is possible? Are results of treatment satisfactory to ourselves and our patients? Have we made our diagnosis in a given case and decided on our line of treatment on the patient's first call, and is this satisfactory to ourselves?

If we are satisfied to be honest with ourselves and our patients, then all these questions are answered in the affirmative. There are two things necessary for our own satisfaction and consciousness that we are doing the best thing possible for our case: 1. An easy practical distinctive classification of the diseases of the middle ear. 2. The exposition of the case to the patient or his friends, where their intelligence makes it possible.

For a practical classification I have adopted the following:

OTITIS MEDIA.

Acute Catarrhal................................
Chronic Catarrhal..............................
Acute Purulent.................................
Chronic Purulent...............................
Subacute Intermittent
Subacute Cirrhotic, Hypertrophic or Atrophic.......

With these we have only to affix the complications in any case, and a distinctive, practical diagnosis is made.

ACUTE CATARRHAL OTITIS MEDIA.

The acute catarrhal form is usually complicated with, or occurs in the course of, contagious fevers and acute inflammatory affections of the upper air tract, and is usually limited to the lower part of the tympanic cavity. All are familiar with its symptoms: Pain in the ears and along the jaw; tinnitus, fulness, throbbing and dulness of hearing; frequently fever. The drum shows congestion and is bulging; if perforated, there is discharge, pearly or milky white, thin, watery and abundant, the odor not offensive; if not perforated, puncture is indicated with a cautery electrode or the spear. Relief follows within a few hours. Apply dry heat to the ear, pilocarpin internally or by hypodermic syringe, and cleanse the nose and throat by wiping, not syringing, and one inflation through a catheter, when possible to use it. When the case has gone on to rupture of the drum, and you see a large hole with catarrhal discharge, cleanse the throat and nose as before. Syringe the ear daily with warm *Dobell* or weak soda bicarbonate solution, and follow with a dropper full of zinc sulphate, 7 gr. to the ounce, wipe out thoroughly dry, inflate the ear once or twice and dry again. Do not keep the ear plugged with cotton, except when the patient is out doors. Cleanse it every other day yourself, by washing—by zinc as above—and catherization and drying, the patient using a dropper full of the zinc solution at home, three times a day, letting the water run out as well as it can after retaining it a minute. Powders are not as good as the zinc, except in cases where the hole in the drum is large enough for some of the powder to get into the middle ear, in which cases cleansing every two days, drying and using of boric acid powder will probably heal the inflammation as quickly as does the zinc. I like the latter better than the silver or permanganate solutions. It does not cause any pain, as a rule, even in solutions of 10 to 15 gr. to the ounce. I seldom use the peroxid as it does not hasten the cure, sometimes I have thought it retarded it.

CHRONIC CATARRHAL OTITIS MEDIA.

I treat the chronic catarrhal troubles, following fevers and la grippe, the same as the acute form. It is not necessary to detail symptoms for diagnosis in this class of troubles. There is a form of chronic catarrh, which I call tubercular, simply because it occurs in tubercular patients. They are very intractable, but if the constitution is good or fair these yield to treatment as well as those catarrhs occurring in the non-tubercular.

ACUTE PURULENT OTITIS MEDIA.

This is an aggravated form of catarrhal otitis, infected with pus germs. It is usually complicated, involving the attic and antrum. Pain is more intense and fever higher. The drum is ruptured sooner and the pus soon has a very bad odor, from its confinement. These patients should be treated at home, by appropriate medicines for fever and pain, and close watch on the mastoid. Puncture the attic if it is bulging. This form yields more quickly than the simple catarrhal form. The treatment is the same, except that you should treat the patients each day yourself. I have known them to get well in five or six days, while it is more common to have catarrhal forms run into the chronic or subacute, before getting well. In fact, I am always expecting the subacute ones to come back after they are apparently entirely well. This acute purulent form may run a rapid course for the patient. It is necessarily very destructive, although when healed quickly, little or no apparent injury has been done the hearing. Should you have mastoiditis, delay is dangerous. Wilde's incision is good practice, even on suspicion.

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CHRONIC PURULENT OTITIS MEDIA.

The chronic suppurative cases are so called when there is the characteristic odor of diseased bone, even when there is scarcely any apparent discharge. These are decidedly obstinate, and yield, in the majority of cases, only on an operation, i. e., thoroughly scraping out the attic and tympanum, or even making the radical mastoid operation. No running ear is safe, although the catarrhal form is least dangerous. The purulent form is absolutely dangerous.

Chronic hypertrophic rhinitis and more or less stenosis, from spurs or deflected septum, have nothing whatever to do with causing any form of aural trouble. This may seem a remarkable statement in view of prevalent teaching. All specialists meet with stenosis, spurs, hypertrophy of turbinates extending into the posterior nares, and large soft pharyngeal tonsils in which there is absolutely no involvement of the ear, consequently, if they were causative factors, these obstructions could not exist except when complicated with aural troubles, while many cases of acute and chronic aural troubles are seen in which there are neither obstruction, hypertrophy of turbinates, nor enlarged hard or soft pharyngeal tonsils. Then, if these nasal pharyngeal troubles do exist and are corrected, the aural trouble remains the same or continues to progress, they are simply incidental and a part of the dyscrasia. Adenoids may, and usually do, cause deafness, quite as frequently, though without catarrh or discharge from the ear, as with it, and therefore their action is more mechanical, aided by the diathesis always present in these cases. While not admitting cause—except in adenoids—I always try to correct these nose and throat defects.

CHRONIC CATARRHAL INTUMESCENT OTITIS MEDIA.

I desire particularly to call attention to the distinction I shall make in describing this disease. It is this affection which, when not specifically distinguished, causes much confusion. There *is* such an affection and it is distinctively marked. It is always complicated by chronic soft swelling of the Eustachian tube, thick, red and soggy uvula, and pharyngeal pillars, and more or less redness and soggy or granular appearance of the upper pharynx. In this affection you will be most likely to meet with intumescent turbinates or other obstruction of the nares. The drum may be good color and but little changed in general appearance, or it may be bulging or retracted, or lax. One ear is usually much better than the other. There is another symptom which is diagnostic in this affection, although the condition outlined is sufficiently characteristic. This symptom is the subjective one of hearing. These patients hear a watch badly, but the voice is heard comparatively much more distinctly. I have had many patients who could not hear the watch except when pressed, or within an inch of the ear, yet could hear conversation distinctly. These *always* have tinnitus. The Eustachian tube is *always* obstructed. In fact, this affection is primarily a Eustachian inflammation. But changes are always found in the ear as well, and it is a true chronic intumescent catarrhal otitis media. It is most frequently found in persons who are exposed to all kinds of weather, as railroad engineers, brakemen, miners, teamsters, etc. Treatment of this affection seems of little benefit. I treat the nose, throat and Eustachian tube by astringents and dry heat, iodin, vapors of camphor, menthol and albolin, with inflation and occasionally gentle dilatation. Massage is scarcely indicated and accomplishes nothing. Catheterization is beneficial, but should not be pursued as routine treatment. Valsalva's method should never be practiced except to coax up a spray; never by the patient at home. Pilocarpin is of service in some cases. Puncture of the drum will relieve tinnitus, until the puncture heals. Removal of the drum and malleus or incus will improve hearing. But these patients should be treated continuously for a year before operation is done, unless quite deaf, or they desire the operation. Change of climate will sometimes aid them, as low altitude, hot and dry, e. g., Old or New Mexico. Change of occupation is sometimes beneficial. These cases *sometimes* yield unexpectedly, and satisfactorily to the treatment. It is possible that they become hypertrophic, then atropic or cirrhotic, like the following type, but if they do it is very slow indeed.

SUBACUTE, CIRRHOTIC OR ATROPHIC OTITIS MEDIA.

This affection has two stages, which can not always be demonstrated in a given case. I would liken this disease to hypertrophic rhinitis, and the preceding affection to intumescent rhinitis. It has been, I think satisfactorily proven that atrophy follows hypertrophy of the turbinates. It is also positive that in hypertrophy of the turbinates the tissues are hard and do not contract decidedly under cocain, as does the intumescent form. Now follow this same form in the ear and Eustachian tube, and note the comparisons: The hard pharyngeal tonsil becoming finally atrophic; the hard hypertrophied turbinate becoming the atrophied turbinate; the cirrhotic hypertrophic Eustachian tube and tissues of the middle ear becoming atrophic. Do not forget the two stages of this disease and you can account for different symptoms, in cases much alike.

Symptoms.—Deafness slowly coming on, with or without tinnitus. When tinnitus is present you have the hypertrophic stage. Aerial conduction is more or less lost, hearing the watch only when very close or pressed to ear. The patient hears some better with his mouth open and still better in a noise during the first stage and up until the stapes becomes firmly locked to the oval window, when noise makes but little difference. Hearing for conversation is much worse than in the intumescent form. To appreciate this difference you must recall your cases and differentiate on these lines. The appearance of the nose and throat will likely be in line with this condition, purely incidental however. The objective symptoms are: drum retracted—may be good color but light spot displaced; Eustachian tube fairly well open or, if in the second or atrophic stage, wide open.

Treatment.—In either stage, medical treatment avails absolutely nothing. While these cases seem to remain stationary, at times the tendency is to result practically in almost total deafness. The only hope in medical treatment is to stay the progress of the disease, and this is almost a forlorn one. Operation is the best thing in either stage, and better in the earlier one. I have adopted the following course, when operation is contrary to the patient's wishes: Treat the nose, throat and tube with stimulants, and try to put some of them in the middle ear. Give iodid of potassium and strychnin internally. If massage is good in any aural affections, these are the ones, but I have little faith in it here. Inflation is of no benefit aside from its massage; indeed, it seems harmful, but it seems impossible to avoid inflation when you apply medicines in the tube and ear. You can pursue this treatment as long as the patient sticks. Always, however, bear in mind and inform the patient that the operation is the thing which promises better hearing. This is the removal of the drum and the malleus or incus or both; the results are quite good. It is neither necessary nor good practice to remove the stapes, and besides being exceedingly difficult, it adds greatly to the danger, and its removal only temporarily increases the hearing over the other operation, because the oval window soon becomes covered with a firm cicatrix, more or less of an epidermic character, and deafness equally as great as before results.

Hearing is not as good after an operation in the atrophic stage as in the hypertrophic. In the cirrhotic the nerve also is sometimes involved. I believe all cases of middle ear trouble are due to some one or other of the dyscrasias, syphilitic, scrofulous, rheumatic, or others.

A word about tinnitus aurium: Its cause seems simple. It is due to more or less ankylosis of the joints of the ossicles with each other and of the stapes to the oval window. Sound waves striking the drum constantly are as constantly transmitted through the ossicles to the fluid of the internal ear. If you close both ears with your fingers, you are pressing the ossicles together, thus ankylosing them and the stapes firmly against the oval window. Now you note a loud rumbling noise, because of vibration through the head and from the mouth. If you talk, you get the same sound a deaf person has, as though you were talking through or into a barrel, showing conclusively that it is in the drum and ossicles that the trouble lies, and that this is due to solidification or, in other words, to more or less ankylosis. When fluid is in the ear, as in acute or chronic affections, you mechanically have the same thing, a solid body acting as a transmitter—in other words a greater or lesser loss of aerial conduction, plus pressure. I am perfectly satisfied with this explanation of tinnitus, which has been explained in so many different ways. If you take a common bass drum and glue a straight stick to the center of the head, on the inside, and strike either head, you get on the other side a muffled sound; but if you glue a chain to each head, on the inside, you get a sound free from all obstruction, in fact a clearer sound than without the chain. The explanation is that transmission of sound is conducted through the chain, instead of direct vibration, when the ear is obstructed you get direct vibration, when the ossicles are normal, you get conduction. If you puncture or remove the drum, noise stops in nearly every case, because sound waves now land against the internal ear wall and conduction is again established in the internal ear. If noise persists after puncture of the drum, it is because there is firm ankylosis or great retraction of the drum, and the hole practically does not admit the waves against the inner wall and the drum and ossicles still receive the vibrations. Conduction through the proper apparatus is absolutely essential for perfect hearing. So if the drum and ossicles are disabled or removed, you will lose some acuteness of hearing. The question arises, why, if the middle ear is stenosed by fluid, are not waves transmitted to the internal ear the same as when the ossicles are removed? The answer is that peculiarities of sound waves are lost and force is broken in transmission through fluid parts. Why do not all persons have tinnitus if ankylosis is present? This question is answered by the fact that a difference in the degree of the ankylosis is present, from that in the intumescent form and hypertrophic stage of the cirrhotic form. Where tinnitus is absent we find atrophy of the tissues covering the ossicles. Ankylosis is more *firm* and there is greater contraction of the drum, with firm stapes—the chief cause—and the Eustachian tube is patulous and atrophic, with atrophy of the throat and nose.

Other affections of the middle ear occur, but they are usually complications of, or caused by, one or another of those treated in this paper, and are sufficiently treated in the standard text-books. My excuse for this paper is purely in its positiveness as to classification, diagnosis, and treatment. It represents condensed opinions of the best authors, with some experiences of my own. In assigning a separate class to the atrophic or cirrhotic form, it is done with a conviction that it occurs without being preceded by the intumescent or catarrhal one. In a few cases it would seem that this form is atrophic, from the beginning, but I am inclined to believe that it is a parallel condition to that found in the nose.

THE GOUTY DIATHESIS.

SOME OBSERVATIONS FROM A DIETETIC STANDPOINT.*

BY EDWARD P. ADAMS, M.D.
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In consideration of the subject of gout, of which so much is known, and withal so little, I must confess that in my hands a rigid attention to diet has accomplished better results than much medication, excluding perhaps those acute explosions in which I have found that a few good doses of piperazin or maizo-lithium for forty-eight hours have given the greatest immediate relief.

Practically, hereditary gout, as well as chronic, is a direct or indirect result of either too generous living and too much "good cheer" in the immediate ancestor, or an improper diet or indulgence in alcoholics in the subject, with also, in some cases, bad climatic influences. Arguing on this supposition, what could be a more rational procedure than to first withdraw the cause of the condition?

In the hereditary forms—and they compose about 75 per cent. of all cases—there is evidently a weakened condition of the eliminating power of the excretory organs, and a lack of physiologic resistance to the accumulation of the urates, with a consequent loss of the metabolic power. Such cases as these, "born and bred in the bone," as they are, require at our hands, a most rigid prohibition from their diets, of the nitrogeneous and leguminous foods and alcoholics from infancy, and a dietetic education of the stomach and palate to a liking for green vegetables, as well as a training in the knowledge that alcoholics and nitrogenous food, and cold and dampness may eventually conclude in the gouty condition which is their inheritance. In those cases of acquired gouty diathesis we have a less persistent condition of affairs to deal with, principally a change of habits, and of these notably the diet, for I have seen as many cases of this sort in which there was no attending use of alcohol, as with it, and in most of these cases a rigid and proper attention to diet has been of more benefit than medicinal treatment where the restricted diet was persisted in.

Without discussing the various views as to the etiology of gout, we may with safety assert that there is always an excess of the urates, and whether or not it be due to a virtual excessive manufacture of them in the economy, or to a storing up of them from a deficient elimination, we know that they are stored away as deposits. and with a knowledge that either their production is decreased or that a better elimination takes place under certain conditions, our duty is plain; put the system under those certain conditions.

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Now, while under any diet, the urates are a normal factor in the economy, we know that they are decidedly increased by the use of nitrogenous foods, alcoholic stimulants, a deficient amount of oxygen, cold and dampness, and lack of muscular exercise. Therefore, in any given case all these conditions which assist must be removed or diminished as far as possible. Excess of uric acid in the blood means a disturbance of the nitrogenous equilibrium.

Gout may be chemically defined as a disturbance of the nitrogenous equilibrium, by the retention or accumulation of uric acid, which, under a sudden excess of, or increase in amount, becomes precipitated as urates, in the tissues, creating irritation and inflammation in the parts next adjacent. Nitrogenous equilibrium is maintained when the amount of eliminated nitrogen is exactly equal to that ingested.

The presence of fat or carbohydrates in the food checks proteid metabolism, establishing nitrogenous equilibrium, with the use of less proteid food; therefore, theoretically and practically, fats, starches, and sugars are useful foods in gouty diathesis, as with them a much less quantity of albuminous food is necessary. Of course, not all forms of these can be used by many, as they interfere, especially if digestion is poor, for then they set free acids and ferments which interfere with the proper metabolism, but in all cases there can be found some forms of these which are easily digestible, either in their raw or natural states, or properly cooked.

Muscular activity and heat are the two ways in which energy is set free, and in order that we may have actual energy for the production of heat and bodily motion, a food containing potential energy, which by the metabolism of the body is converted into actual energy, is necessary, but if, with the ingestion of this food, we do not by muscular activity set free the potential energy contained therein, it sets itself free by explosions within the economy, which interfere with metabolism and produce an unstable nitrogenous equilibrium, which means an excess of uric acid in the blood—the foundation of gout.

It is characteristic of proteid food to increase the oxidation and the metabolism of the tissues, producing immediate consumption of both nitrogenous and non-nitrogenous food; when the tissues must be quickly renewed an excess of proteid food is necessary, but when this excess is constant it is liable to be productive of an excess of uric acid in the blood, which, becoming deposited as urates, produces the gouty condition.

The principal value of fats and carbohydrates lies in the fact that they produce at least three-fourths of the potential energy, being sources of muscular energy, as well as of heat, but, unlike proteid food, they do not excite metabolic activity of the tissues. They can also be stored up and retained in the system with more ease than can proteid food, and after digestion the elements of the fats and hydrocarbons, which compose the protoplasmic part of adipose tissues capable of metabolic changes without the expense of explosive energy—which explosive energy when resulting from proteid food, demands immediate excretion or causes a saturation of blood with uric acid—are likewise stored away, depositing from non-nitrogenous food, fat which is useful as a source of reserve energy, while nitrogenous food, especially in excess, is not stored away for future use, but if not immediately needed and immediately used is a poison which, if solely in the blood, causes great irritation in the system, and when deposited in the tissues causes the greatest pain of gout.

Having in a superficial way noticed the general conditions to be expected from the three classes of food, I will proceed to give you the results of some of my own observations with some individual articles of food and drink.

Drinks.—In a general way I may say that fairly large quantities of water or liquid are theoretically and empirically useful, in that by diluting the fluids of the body they seem to hold in solution, or take up a larger percentage of the uric acid and also to prevent deposits forming. All drinks should be taken hot if possible, because if cold, or especially if iced, they waste animal heat, and a depression of nerve force takes place in the economy, in the effort to restore the normal heat again If hot water can not be taken between meals it can be taken while eating, and I have found that it is well borne, and does not interfere with digestion, as does cold water, for it is quickly absorbed, and does not do more than delay digestion for a few minutes. The humbuggery of the past, that water should not be taken while eating, is, I trust, "a thing of the past," for it is nowadays quite the proper thing, dietetically, as well as gastronomically, to use hot soup, bouillon or consommé with one meal a day, and it is a wise habit to develop.

As to mineral waters generally, and especially the carbonate of lithia waters, I quite agree with Osler when he says, "much of the humbuggery in the profession still clings about mineral waters, more practically so-called lithia waters. There is not the slightest evidence that the carbonate of lithia has any influence in promoting the solubility of uric acid." In my experience—and it is quite extensive—in so far as mineral waters are concerned, I am convinced that Osler is justified in his assertion. I believe that they do good only in so far as they serve to introduce into the system a large quantity of water, expensive as it is, and the more expensive it is, the more it is likely to be taken, for a patient will drink water for which he has to pay, when he will not drink largely of that which is easily obtained. And, except on this ground, I have discontinued the use of them, only giving them to those patients who still believe in them, and then only for the service that the water itself, minus the carbonate of lithia, will perform. For the past ten years I have succeeded in having my patients with gout, after a few days' education, continue the use of hot water in large quantities, in which was sufficient piperazin, or fluid extract of corn silk to equal daily 15 grains of piperazin, or half an ounce of the fluid extract of corn silk. In all cases of acute attack of gout, my dietetic treatment was commenced immediately, supported and assisted during the first forty-eight hours by twenty grains a day of piperazin in large draughts of hot water, or the use of maizo-lithium in fluid dram doses in a tumbler of hot water every four hours, and in chronic cases continuing the use of either one or the other in smaller doses but in large quantities of hot water. Freshly made fluid extract of corn silk acts admirably in the same way, but it must be freshly made, and from the green fresh silk, which can only be done during the season of sweet corn, and as the lithia, either the citrate or benzoate, has remarkably solvent effects on uric acid, I have often combined it with the fluid extract of corn silk, in which the value lies in the maizinic acid, so when the corn silk can not be taken from the growing corn, I use the maizo-lithium. It is cheaper than piperazin, and has no depressing effects; indeed, corn silk, since its introduction to notice as an uric-acid solvent, in 1882, by Professor Castan, has grown on the profession as a valuable drug in these gouty conditions. Its introduction into the system brings about a balance of the nitrogenous equilibrium without any disturbance; produces a rise in the arterial and a fall in the venous tension. Its use is supported by such authorities as Dennie of Bordeaux, Queirel of Marseilles, Pons of Nerac, and many other observers, in uric acid conditions, and not once in ten years' use have I been disappointed in its results. I give it to all my gouty patients, in one form or another, ofttimes with lithia, sometimes alone, daily for months, as a largely diluted drink with meals.

According to Dujardin-Beaumetz, coffee is not deleterious in gout when it acts as a diuretic, otherwise it does harm and should be avoided. Milk is another valuable drink for the gouty, and when it constipates should be combined with seltzer water; it should always be fresh and sweet. Buttermilk is grateful and refreshing to some, and furnishes likewise a good excuse for ingestion of fluid.

If liquor seems to be demanded because of previous habitual use, whisky is probably the best or does least harm, especially if largely diluted with water. If possible, all alcoholic drinks are best avoided. Cold drinks are to be avoided, their harm being directly in proportion to the quantity taken, the severity of the gout, and last but not least, the age of the patient, for as people advance in life, they become less tolerant of cold or iced drinks, and in a gouty constitution a large draught of cold drink may, as in one case I know, precipitate an attack by sudden lowering of the bodily temperature. Lemonade between meals when there is no desire for fluids, is a good drink, if not too sweet, as the acid it contains is, like all vegetable acids, changed into the alkaline carbonates in the economy.

Condiments are a valuable adjunct in the administration of all foods, for while but very few gouty people need their "palates tickled," they act as valuable assistants to digestion; however, common salt should not be taken in large quantities, nor food containing much of it used, as the lymph in the vicinity of the synovial joints and sheaths has a particular affinity for it, and the biurate of soda is so easily formed in the presence of sodium chlorid. It is probably partly due to this fact, combined with the lower temperatures and lessened circulation of the part, that the deposits of urates so readily take place.

I believe it is not as generally known, even in the profession, as it should be, that we have a most valuable medical condiment in mustard. I know one patient who claims he "staves off" an attack of gout by using pulverized dry mustard mixed with water to a paste, as a condiment at every meal, when he commences to "feel the twitchings of pain," and Chambers of London says that in chronic rheumatism, "a patient need seldom be laid up if he will adopt the simple expedient of eating a certain quantity of fresh mustard with every meal—much, if worse than usual, and a little if he is pretty comfortable."

Pepper as a stimulant to digestion is harmless in moderate amount, and makes many otherwise insipid articles of food palatable and tasty. Horseradish finely grated, while not of the therapeutic value in gout which it was once claimed to be, is nevertheless of about the same digestive use as pepper. I may say the same of water cresses and pepper-grass.

With but a few exceptions, green vegetables are the ideal foods, and, as Walter Mendelson says, "a great boon to the gouty; they afford sufficient bulk to allay the appetite without introducing too much nutriment, beside supplying the system with alkaline soda and potash salts."

The dried leguminous vegetables, like beans, peas, etc., must be avoided, as nitrogen enters too largely into their composition.

As I have so lauded corn silk, I want to say of the corn itself—i. e., the fresh green sweet corn—that I have been greatly impressed by the constant use of it; that it is the best by far of the vegetable kingdom for daily use as a medicinal food, containing as it does a small percentage of maizinic acid and a valuable amount of assimilable nutriment, with considerable bulk, and not disagreeing with the stomach, when young and fresh. Where it does disagree by reason of the hull, it may be cut off the cob while raw, rubbed through a coarse sieve, separating the hull to be discarded, and then turning the corn substance into an equal quantity of hot milk to simmer for three or four minutes, and serve with butter, salt and pepper. With those who can eat it "off the cob" it will not disagree in moderate quantities daily all through the season, if young and fresh and boiled eight minutes. In the winter it can be obtained in cans, and used without more cooking, simply heating in milk or water. Of course, only the best brands are to be used; the "Sunbeam" and other brands of Maine corn are the best I have found. A good corn broth can be made, by emptying the contents of the can into the same bulk of sweet milk, simmering two or three minutes, season to taste and strain through a coarse sieve, rubbing through all that will pass. If a daily small quantity of sweet corn can be eaten, the subject of gout can eat with less injury a larger amount of meat than otherwise.

Cucumbers and squashes are not harmful to good stomachs. They contain a good proportion of the alkaline salts, and in squash there is considerable nutriment; they are both diuretic. Cucumbers should be "just off the vine," fresh and crisp, placed in cold water till cold, peeled, sliced into cold or iced water, and when ready to be eaten a slice taken on the fork, dipped into vinegar and sprinkled with pepper and salt and finely masticated; eaten before noontime or at breakfast, they make a good relish.

Greens, like spinach, dandelions and kale, are of appreciable service, as by their bulk they satisfy, and their extractive salts are of the alkaline group; no constipation follows their use, as they act as a stimulant to the liver. Sugar beets with green young tops are of this class, and contain considerable sugar.

Potatoes should be neither too young nor new, and not old enough to have sprouted; they are best boiled or baked with their jackets on, and the skins of the roasted potato, eaten, as they contain the phosphates.

Salads of lettuce, celery, tomatoes, etc., with oil, butter, pepper or mustard or mayonnaise are healthful, if not combined with chicken, lobster, etc., which are best eaten by themselves.

Fruit is, most of it, beneficial, but should not be eaten after a meal, or on retiring; the old adage applied to apples, that they are "gold in the morning, silver at noon and lead at night," may be equally applied to all fruit.

Watermelon has remarkable diuretic properties, but it is best to swallow only the water. They are very refreshing, especially when "chilled" and used in a hot summer day; the juice cools the mouth, but gets into the stomach slowly enough to do no harm.

Cooked fruits often disagree because of the fermentation of the added sugar, which in the presence of the fruit acids, takes place readily, or forms organic acids which interfere with digestion.

Fish may be made to take the place of meat to a great degree; the harder and finer the texture of the fish, and the darker and more oily it be, the harder it is to digest, but if digestion be good, nearly all kinds can be eaten, especially if properly cooked. The rule should be, to never fry them, but bake, broil, or best of all, boil them. With very weak digestion, flounders boiled ten minutes in a little salted water are well borne. Animal food is denied by many, and advocated by as good authority, but I am inclined to the opinion that it is quite generally conceded to be harmful and certainly unnecessary; except in a few cases where the light-colored meats may be used to "break the monotony" of diet, they are best let alone.

Fats, starches and sugars, when properly cooked and digested, do not contribute to the formation of uric acid, and their free consumption acts to restrict the amount of proteid or nitrogenous food. Good fresh butter, oils in salads, bacon, etc., lessen by their heat production the retrograde metamorphosis of the body albumins and satisfy appetite. Most of the starchy foods may be eaten with impunity, if properly cooked. Bread should be stale or toasted, and the German toast or "zwieback" should take the place of crackers.

I have not attempted to cover the ground of medicinal treatment; and, with proper diet, but little will be required in the main, except during the "explosive" attacks.

In closing, let me say that with our diet, we should encourage employment and outdoor pleasures; and pleasant exercise, either active or passive, for those confined to the house by infirmity or otherwise.

Stimulate the depressed and melancholic conditions by cheerful companionship, but teach our patient that he who makes of his stomach a god is a fool, and that "good cheer" with brandy and soda, makes urate of soda and gout.

762 East McMillan Street.

A CYST OF THE PANCREAS: OPERATION: RECOVERY.*

BY JAMES B. EAGLESON, M.D.

SEATTLE, WASH.

Mrs. J. K., 34 years old and a native of Norway, was referred to me by Dr. Gibson of Seattle. Her family history was negative and she did not remember having received an injury of any kind in the abdomen. She has two children, aged 16 and 5 years, and has had two abortions, the last two years ago. Her general health had always been quite good, until 1896, when she began to have some indigestion and distress in the stomach, and this gradually increased.

In May, 1897, she had a sudden attack of severe pain in the left side, in the region of the kidney, accompanied by severe nausea and vomiting. The attack was thought by some to be acute pleurisy, but no definite diagnosis was determined on. It lasted about five weeks. A second attack occurred in the latter part of July, diagnosed as some disease of the uterus and ovaries, and an immediate operation was advised. She was sent to the hospital in Spokane, where she was then living, and had the uterus curetted and a laceration of the cervix repaired. About ten days later a double oöphorectomy was performed. She left the hospital in four weeks after this, somewhat improved, but in about two weeks after going home the attacks of pain returned, more severe than before. During the following winter they returned at frequent intervals and were occasionally accompanied by a slight cystitis. In February, 1898, her condition was diagnosed as a stone in the left kidney, and an operation for its removal was advised. About one month later she noticed a tumor in the left side, when lying in a certain position. The appetite remained poor and she continued to lose flesh, but during the summer after coming to Seattle the attacks were not so frequent and were less severe. However, as the cold weather came again the attacks were more pronounced, and about the middle of November her attending physician had her removed to Providence hospital and called me in consultation.

I found her very much emaciated and the skin presented a wrinkled appearance and had a decided bronze tinge. She felt a repugnance toward eating, and the food taken was frequently rejected. Her temperature ranged from 99 to 101. Her sleep was very restless and broken. There was a movable tumor in the upper part of the left lumbar region, which dropped forward, downward and toward the median line when in the erect position, coming as low as the umbilicus. It was somewhat tender on palpation and seemed to be a solid tumor. The tenderness was much more marked during the attacks of pain, which would frequently radiate downward in the direction of the ureter, and would be accompanied by an irritation of the bladder. The urine collected from the kidneys, by the Harris instrument, showed no apparent difference on analysis. That voided gave a deposit of a few pus cells and bladder epithelium from the cystitis. The quantity of the urine passed was somewhat below normal, but was occasionally considerably increased immediately after the subsidence of the acute pain. The kidney could not be outlined in its normal position. No definite diagnosis was arrived at, but the tumor was thought to be an enlarged floating kidney, and an exploratory operation was decided on with a view to making a thorough examination of the kidney, and if it was found to be healthy, to fix it to the lumbar muscles.

I operated on November 28, and was assisted by Drs. W. C. Gibson, C. B. Ford and H. D. Kline. The usual lumbar incision was made for exploring the kidney, which was found to be apparently healthy and in its normal position. Through this incision the tumor could be located as extending from a fixed point just above the kidney downward and forward into the abdominal cavity, and was pear-shaped. As soon as we discovered that we had to deal with an intraperitoneal tumor, the lumbar wound was closed up by buried catgut and cutaneous silkworm gut sutures.

The patient was then changed to the dorsal position on the table and an incision was made over the most prominent part of the tumor, which was at the outer border of the left rectus muscle. The lower end of the tumor, covered by omentum, was brought into the wound. It was oval and about 12 cm. in diameter. The left end of the transverse colon passed over its center, and the stomach was drawn down over the upper end. It was smooth, but very dense and hard, resembling a solid tumor on palpation. The first thought was that it must be a malignant growth, and from the apparent depth of its attachments, the advisability of attempting its removal was questioned. An opening was torn through the gastrocolic omentum and the tumor wall exposed; it had a dark bluish color resembling a cyst.

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It was now diagnosed as a pancreatic cyst and I decided on immediate incision and drainage. The edges of the omentum, which was firmly adherent to the cyst wall, were stitched to the peritoneum of the abdominal wound in order to prevent leakage into the abdominal cavity. An incision 1 inch long was now made into the cyst and its contents drained out by turning the patient on her left side. The fluid contents, a dark greenish-yellow color and quite turbid, had a sourish odor. Unfortunately none was preserved for analysis. The quantity was estimated at 2000 c.c. It was not possible to reach the upper end of the sac with the finger inserted in the opening. A probe passed upward, backward and outward for about 25 cm. toward the tail of the pancreas.

The edges of the cyst wall, which were quite thick, were sutured to the abdominal wound and a large rubber drainage-tube inserted into it. The external wound was closed with silkworm gut sutures and an absorbent dressing applied.

The shock of the two operations was quite severe, and the patient's temperature remained subnormal for the first twelve hours. She was very restless and suffered severe pain after the effects of the anesthetic wore off. She was stimulated by morphia and strychnia hypodermically, together with hot saline enemas. The pains continued more or less severe for four days, and the nausea following the anesthesia lasted for three days.

The discharge from the drainage-tube was very slight after the second day and the tube was removed on the eighth day. The wound was entirely closed on the eighteenth day. The patient gained strength very rapidly as soon as able to take nourishment, and her recovery was uneventful. At the end of six months her health is good and she is able to do her own housework.

SMALLPOX IN OHIO.*

BY C. O. PROBST, M.D.
SECRETARY OHIO STATE BOARD OF HEALTH.
COLUMBUS, OHIO.

Ohio has been having a most interesting epidemic of smallpox during the past year, and I had hoped to be able to present a proper report of it to this meeting. During the past six or eight months, however, I have been kept so busy combatting the disease that I have had no opportunity to complete the report. A few weeks ago I wrote the Chairman that I would be unable to present the paper I had promised, but he informed me that the program had already been printed and that he would expect me to say something on the subject. I have, therefore, very hurriedly prepared a few remarks on some of the more interesting features of our epidemic.

Smallpox made its appearance in Ohio April 6, 1898, and up to June 6, 1899, fourteen months, there have been reported 1882 cases and 30 deaths. Out of 88 counties 45 have been invaded, and the disease has prevailed in 61 cities and villages, besides, in most instances, invading rural districts surrounding them. The disease has been marked by its exceeding mildness and by the many failures to recognize its character, both operating to favor its spread.

The first outbreak occurred in a small village a few miles south of this city and very well illustrates the nature of the disease. A man 72 years old made a visit South, passing through several States where smallpox was prevailing. About a week after returning home he was taken ill and in a few days died with what was called "black measles." Two weeks later his wife, son, and three grandchildren were attacked with what was pronounced "chicken-pox." The children had never been vaccinated, and yet the disease was exceedingly mild, so mild that the children were never bedfast and scarcely missed a meal. The eruption was scanty, rapidly ran its course, and presented much the appearance of chicken-pox. Two or three well-marked cases of smallpox resulted from exposure to these children and settled the diagnosis.

In April, 1898, a show known as "Uncle Tom's Cabin Show," owned in Columbus, started on its annual tour, which for that year was at first through the western counties of Ohio. Two children, one of them "Topsy," and an adult contracted what physicians called to see the patients pronounced "chicken-pox." The children were not greatly affected at any time, Topsy taking her part in the play each night. The adult was quite ill for some time. Six distinct outbreaks in as many different communities were directly traced to this show. A most remarkable feature of these outbreaks is that in none of them was the nature of the disease thus started recognized until months afterward.

One of these communities, where smallpox was thus started, is Wapakoneta. The disease began there in May, and it was not until October that an investigation was made, or called for, and the disease declared "smallpox." The community was largely unvaccinated, most of the children under 12 years of age being unprotected. No restricted measures whatever were employed. Schools and public gatherings continued as usual. The sick were visited and every opportunity was afforded for the spread of the disease. A county fair was held and smallpox patients in the desquamative stage of the disease mingled freely with the visitors. In all there were but 203 cases of smallpox in Wapakoneta and vicinity, embracing a population of not less than 9000 people. The great majority of these occurred before preventive measures of any kind were employed.

Perhaps a more remarkable behavior of the disease was shown in Marysville, a village of about 4000 inhabitants. Smallpox appeared there in May, the first three cases having been directly traced to exposure to the troupe referred to above. The disease spread very slowly, attacking children and adults, but only the unvaccinated. The health officer, some time in July or August, became suspicious of smallpox and called a council of physicians. They agreed on a diagnosis of "impetigo contagiosa." No efforts were made to prevent the disease from spreading, the diagnosis of impetigo being accepted, the common people, however, calling it "Spanish measles."

An outbreak of smallpox in Hamilton the 1st of November was directly traced to an importation from Marysville. Inquiry developed the fact, however, that at that time there were no cases of either smallpox or impetigo in Marysville. The disease had actually died out of its own accord.

Two weeks later the health officer of Marysville reported some suspicious cases, and three undoubted cases of smallpox were found in one family. These were quarantined and no others occurred. Probably most of the physicians in Marysville will still tell you that there has not been a case of smallpox in that village.

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These are fair examples of numerous outbreaks in different communities of this state, where smallpox has languished for weeks and months without any one suspecting its presence.

The disease itself has presented many unusual features. It has been not only very mild, but also very feebly contagious. What has been said would indicate this, but other facts show it. In some instances unvaccinated children have lived in the house where persons went through with an attack of smallpox, associating with them daily, and yet escaped the disease. Persons with the disease have gone into crowded rooms, as into schools, churches, railway cars, etc., and yet no one contracted smallpox from such exposure. Vaccination, even if performed many years ago, has given almost perfect protection.

Where the disease has prevailed in a community for months, masked under some other name, vaccination became the best means for diagnosis. A house-to-house canvass in such cases, with a history of the patients and their families, revealed the fact that with few exceptions the disease had gone through family after family, picking out only the unvaccinated. There was a remarkable instance of this at Marysville. Two families living in adjoining houses in the same yard had the disease. In one family of seven all had smallpox and all were unvaccinated. In the neighboring family of six but one contracted the disease and he was the only unvaccinated member of this family.

The symptoms of the disease were variable. The preliminary fever was in many cases slight and almost unnoticed. Secondary fever appeared in only a small proportion. The eruption in most instances was more superficial than common, involving the true skin less, so that in most cases the pitting was slight. The eruptive period was often much shortened and pursued a somewhat irregular course. While the disease was so very mild several deaths, nevertheless, occurred from hemorrhagic smallpox, and two from the malignant, purpuric form.

In conclusion may be quoted what an old, experienced physician in Wapakoneta said when the character of the disease there was being investigated: "If this disease we are having here is smallpox then the whole subject of smallpox, as given in our text-books, must be rewritten." But when asked if that would not be equally true if the disease were chicken-pox, as it was being called, he said: "I guess that's so, too."

For discussion, see page 1592.

HOW SHALL WE CONTROL VARIOLA?*

BY S. L. JEPSON, A.M., M.D.

CITY HEALTH OFFICER.
WHEELING, W. VA.

> A pebble in the streamlet scant
> Has changed the course of many a river.

Vigorous sanitation applied at the right time and in the right way will always prevent an epidemic of smallpox. No acute infectious disease is so easily controlled, because: 1. It manifests itself externally and should rarely be mistaken for any other disease; 2, it is greatly dreaded, and hence people are as a rule careful to avoid it; 3, its germs are easily destroyed; 4, we have in vaccination an absolutely certain protection. The last statement may be disputed, but the exceptions are so very rare that I think better to ignore them.

My experience as a sanitary officer has brought to light a very great amount of prejudice against vaccination. This is largely based on the densest ignorance, but not a small part of it is due to the many bad results of careless vaccination—results often caused, not by impure virus, but by vicious methods of introduction or neglect by physicians of the commonest antiseptic precautions. Arms are seldom cleaned prior to the operation. Not rarely absorbent cotton or a cotton rag is bound tightly over the arm; and at least two physicians whom I know apply adhesive plaster after the insertion of the virus, allowing it to remain during the development of the vesicle. The result is a broken vesicle or pustule, an imperfect protection, often an infected and consequently very sore arm, with constitutional disturbance; and, worse than all, a growing prejudice against this most beneficent of all known preventives of disease.

The past year has given several demonstrations of the carelessness, ignorance, or perversity of physicians that are by no means creditable to our profession. In the very enlightened states of Ohio and Pennsylvania have errors been made in the diagnosis of variola and persistently adhered to until the disease spread far beyond the limits of its origin. No man is infallible, and some unusual forms of variola, as the malignant, the hemorrhagic, and some cases greatly modified by vaccination, may mislead for a time the most experienced. But to persist in error in opposition to more enlightened and expert opinions, and thus allow a disease to spread which ruins the business of a community and entails upon it a large expenditure of money, to say nothing of the resulting inconvenience, suffering, disfigurement, and death, is little short of criminal.

When a disease is so widely prevalent as smallpox has been for several years past, physicians should keep it in mind, and when called to strangers or those who may have been in an infected locality, they would do well to ask themselves the question: "Is this a case of smallpox?" Until this question can be definitely answered in the negative, let the case be isolated and every sanitary precaution be taken. Better quarantine a hundred cases of varicella than to run any risk of starting a smallpox epidemic.

Little less culpable than persistent errors in diagnosis are long delays in making a diagnosis, unless the strictest sanitary precautions are observed while awaiting developments. Some physicians never report a case of variola, even when it is prevailing in a community, until the second or third day of the eruption, free intercourse with the patient being allowed in the meantime, with the result of communicating the disease to one or more persons who, under proper management, would have escaped it. While such a practice is absolutely without excuse, personal experience has taught me that it is by no means uncommon.

The facts here recited lead me to impress these suggestions on the general practitioner:

1. Insist on general vaccination and use your influence in having the best virus inserted with all antiseptic precautions. I use the glycerinized in closed glass tubes.

2. Try to avoid errors in diagnosis. If in doubt, call to your aid the proper health officer or some one more familiar than yourself with smallpox. Do not tenaciously adhere to an opinion that the case is varicella if an adverse opinion is expressed by a physician of larger experience with variola than is your own. The

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sanitary officer will err, if at all, on the side of the public safety. Such errors are excusable, but mistakes that result in the spread of a vile disease, however unavoidable they may at times be, the public is always quick to condemn. All will recall the erroneous diagnosis in Montreal, which gave to that city 3000 cases of smallpox. Such mistakes are liable to cause the physician making them to have unpleasant reflections. Let no false pride lead any one to postpone reporting a case, lest it develop into some other disease than variola. It is a comfort to divide responsibility with some one, and in the cases referred to the health official is the proper person.

3. Make your diagnosis as early as possible and at once report the case to the health authorities. As soon as suspicious symptoms present, isolate the patient and vaccinate every exposed person.

If these suggestions be carefully followed by all physicians the health authorities will have little trouble with smallpox, and epidemics of this disease will become rare. But, alas for human fallibility and perversity, mistakes will continue to occur and this dread disease will continue to get a good start in some communities, and the health authorities will, though often unjustly, be held responsible for its spread. During the course of an epidemic cases will occasionally occur that are so very mild as to pass unrecognized, no physician being called. I recall five such cases in a somewhat recent experience, one of which gave rise to three and another to eight new cases. The sanitary officer is completely helpless in such cases as these, in which the modifying influence of vaccination becomes a positive source of danger. He is also helpless when cases are concealed, as occasionally happens. Some years ago I found a young man dead from confluent smallpox, to whom a physician had never been called. In the same family were two sisters convalescent from the disease. During the existence of these three cases the father and a son continued at work in a large iron mill, and the female members of the family milked three cows and distributed the milk to the neighbors. The above facts illustrate some of the difficulties with which the sanitary officer has to contend, and enforce the importance of preventing epidemics, which is so much easier than to stop them.

As a result of ten years' experience as a health officer I have formulated these rules for my own guidance in the sanitary management of smallpox, and hope they may be respectfully considered by any who may be called on to control this disease unaided by such complete organization as is provided by the boards of health of our larger cities.

1. Clothed in mackintosh and with the hair covered, promptly visit every reported case and vaccinate every person in the house and in adjoining ones. Make a list of all persons who have in any way been exposed to the patient. Remove the affected one to the hospital, or to an isolated building that may be thus used. If this can not be accomplished put the patient in the most isolated room in the house, with every unnecessary thing, including all domestic animals, removed. Hang a sheet over the doorway, allowing it to touch the floor, and keep it saturated with a bichlorid solution. The nurse, well protected by recent smallpox or recent vaccination, must be confined as strictly as the patient. No nurse who has had smallpox years before should be employed without being vaccinated. I once made that blunder. The nurse contracted the disease again, and from him seven other cases arose. I have succeeded perfectly in vaccinating persons well pitted by a former attack of smallpox. Vaccinate the nurse daily with different virus until you get a result or are reasonably certain that he is immune.

2. Search out all persons on your list and vaccinate them and keep under observation for sixteen days. As with the nurse and family, I perfer to use both bovine and humanized virus. You have thus two chances of success. Experience leads me to regard the humanized as more certain, more speedy, and less severe in its action. For these reasons I prefer it in emergencies.

3. Guard the premises day and night. I recognize the fact that in exceptional cases, when one has intelligent and honorable people to deal with, a guard is not necessary, but such cases are rare.

4. After the patient's recovery use daily hot disinfecting baths until the skin is entirely free from all of the scales of the original eruption. Pay particular attention to the head, palms, and soles. In case of death, wrap the patient in a sheet saturated with a strong bichlorid solution, put in a tight coffin and bury at once. Let no one assist in the burial who is not well protected against the disease, and see that every sanitary precaution is practiced.

5. After the infected room has been vacated make it as tight as possible; thoroughly steam it by placing a vessel of water over a gasoline stove near the middle of the room. Follow this immediately with sulphur fumigation, and allow the room to be closed for twenty-four hours, examining occasionally to insure thorough burning of the sulphur. Good reports are made as to formaldehyde disinfection, but I have never used it. It may in time displace sulphur. After reopening the room soak in a strong bichlorid solution and afterward boil such articles as can be washed. Remove in a covered cart and burn all others.

6. Send to the house a reliable person well instructed in the art of cleaning. Have the ceiling, walls, floor, wood work, in short, everything that is in the room or a part of it, well washed with bichlorid solution. If a trained disinfecting corps is available this work is much simplified. Having none, my practice has been to select two women for this work and give them much personal supervision until they have learned what is required and how to perform their duties. No family but the most intelligent can be trusted to clean and disinfect their own premises after smallpox. Painful experience has impressed this lesson on me.

No claim is made that any new thing is here presented, but only a modest effort to systematize the health officer's work, that no essential duty may be overlooked. How much easier would his work become if all people would but heed the lessons of experience and universally submit to vaccination and revaccination? The result would simply be a speedy disappearance of this vile disease. I am inclined to agree with Dr. Whittaker, who, in speaking of vaccination, says: "All the contributions to the welfare of mankind made in the whole realms of law and theology do not compare with this simple contribution of medicine." It is too late in the century to present an argument in favor of vaccination, but here are a few facts drawn from Wheeling's 146 cases in 1895. There were sixteen deaths, all of persons never vaccinated. This was 26 per cent. of the unvaccinated. Not a serious case occurred among those who had ever been vaccinated. Many of them took no medicine and were never confined to bed for an hour. Not one case occurred among persons protected by recent vaccination. Two young infants, vaccinated after their mothers were attacked with varioloid, continued to nurse at the maternal breast without contracting the disease. Nearly all of the patients, including those in the pesthouse, were nursed by persons protected only by vaccination. Not one of these, who had been recently successfully vaccinated, took the disease. Three of our worst cases, one fatal and the others almost so, were second attacks. My experience teaches me to regard a recent good vaccination as a better protection against, and especially against death from, smallpox, than is the disease itself, unless the attack of the latter was recent. Death in second attacks is by no means rare. Marson's statistics—15,000 cases— show a mortality among this class of 19 per cent. I have never seen nor heard of a smallpox death after a recent successful vaccination.

An isolation hospital I regard as next in importance to vaccination in the sanitary management of smallpox. Hence, I fail to comprehend a statement made by Dr. Whittaker[1] that "the maintainance of a pesthouse is a superfluous expense and a reflection on the intelligence of a community," unless he means that were the people sufficiently intelligent to secure universal vaccination such an institution would not be required. In this sentiment I fully agree, but, taking people as we find them, a hospital is safe and economical as compared with home isolation and quarantine. When the health officer gets a patient from the home into a hospital he feels a mighty burden lifted from him, for so long as the patient is at home one can never be certain that the disease will not spread by careless management.

In conclusion I would urge two lessons as especially important. One is that which Captain Miles Standish so well learned after a very painful experience, viz.:

> If you would have a thing well done.
> You must do it yourself, you must not leave it to others.

Not less important is this: *Obsta principiis!* Resist the beginnings! Stop the disease, if possible, at the first case, at any cost of energy or money. The most unwise economy is that which seeks to stop the progress of smallpox by cheap methods. It must be fought like fire in its inception. This I believe to be the truest economy.

DISCUSSION OF PAPERS OF DRS. PROBST AND JEPSON.

Dr. Amand Ravold, St. Louis, Mo.—I would like to speak of our experience with an outbreak of smallpox which occurred in St. Louis last winter, and the valuable lessons it taught us. The first case came to us from New Mexico, November 15, 1898, in the person of a traveling man who had been selling goods in that Territory. He was sick and came to his home in St. Louis, in a Pullman car. He called in a general practitioner, who diagnosed his malady as chicken-pox, but not feeling sure about it, called to his aid a dermatologist who has had an extensive experience with smallpox, and is especially skilled in the diagnosis of that disease. Both physicians agreed in the diagnosis of chicken-pox, the patient made a rapid recovery, and in a few days went back to New Mexico, traveling all the way in Pullman cars. On November 29, fourteen days after he reached his home, another member of his family, a man, was taken sick. The same physicians saw this case and pronounced it chicken-pox. About the same time, however, a child, 3½ years old, was also taken sick and soon showed unmistakable evidence of smallpox. Two other cases of smallpox also developed in this household. The physicians promptly acknowledged their mistake, and the patients were sent to quarantine. These teach two important facts: 1, the necessity of a most careful scrutiny and isolation of all cases of chicken-pox, and 2, of a most rigid and thorough disinfection of all Pullman cars at the end of a long run. Some days later, a negro walked into the city dispensary with an eruption of smallpox on him, and, following this case, the disease spread rapidly among the poorer negroes of our city. Now, although we have no laws compelling vaccination, the Health Department vaccinated the whole male negro population of the city and as many of the women as could be captured. During cold weather, negro men congregate and sleep in what are known as "barrel houses." In these low, filthy saloons they sleep on the floor as thickly crowded together as the floor space will permit, sometimes more than a hundred in a room. It is well known that the negro objects strenuously to vaccination, and it is interesting to record that a great number of primary vaccinations were made on full-grown men. Our vaccinators, protected by a number of policemen, would suddenly, at night, enter a barrel house and compel every man to bare his arm, and, if he could show no recent scar, vaccinate him. It was only in this high-handed manner that the Health Department finally stamped out the disease among the negroes. Another patient who forcibly demonstrated the crying need that a thoroughly efficient method of disinfection for railroad coaches be at once adopted by the Pullman Co., came into our city from the west in a Pullman car. The disease was quickly diagnosed, and sent to quarantine. The car was disinfected according to the Pullman method, by spraying sheets hung upon the bell rope, with formol, and then closing the car for three hours. The car was then scrubbed and cleaned by a negro porter, who had not been near the car before its disinfection. Within the proper incubation period, fourteen days, this porter developed smallpox, and was sent to quarantine, where he died. At the request of Health Commissioner Starkloff, we afterward carried out a series of experiments for the purpose of ascertaining the value of the disinfection method employed by the Pullman company, and found it, as used by them, absolutely unreliable.

The death of a child from tetanus following vaccination brought up another important question, and that is, which is the best and safest virus to use? Lymph spread on the point of a quill or ivory point, or glycerinized vaccin? Personally, I use glycerinized vaccin only, because I know from several trials which I have made that glycerin kills all non-spore-forming bacteria put into it in the course of several weeks, and therefore, in a degree makes use of glycerinized vaccin that much safer, but whether or not it kills the spores of the tetanus bacillus I do not know. It is a question worthy of careful study. The case in point is as follows: A boy about 12 years of age, together with a number of other children, was vaccinated, on the same day, at school, by a physician from the Health Department. The physician is a middle-aged, extremely careful, conscientious man. The virus used by him came from the Higgins' vaccin farm, and was spread on pointed ivory slips. After having been vaccinated on the arm, and while standing near a radiator waiting for the wound to dry, the boy fainted. He soon recovered and, on reaching home, his mother bandaged up his vaccinated arm with a dirty cloth. The arm was quite sore on the seventh day, an ulcer formed, and later a scab grew over it. On the twenty-second day the scab fell off the wound, leaving a large, ragged ulcer below. On this day he complained of some stiffness of the vaccinated arm, and of a slight rigidity of the jaws, and seemed to be "grinning all the time," his mother said. He was treated by Dr. F. E. Chase, who, at my request, wrote a history of the case and published it in the *Medical Review*, St. Louis, in May. Although a bacteriologic examination of the wound was not made, I am nevertheless convinced that the doctor was not mistaken in his diagnosis of tetanus. From the history of the case, however, I am positive that the bacillus of tetanus was not invaccinated, but sown in the wound by the dirty methods employed in the treatment of the ulcer, on an uncleanly child, by an ignorant mother. Further, of all the other children vaccinated that day, not one developed the disease or showed an untoward symptom. Nevertheless, the Health Department was threatened with a law suit by the parents of the child. I am confident that if glycerinized vaccin had been used we would have felt more comfortable. The lesson taught by this experience emphasizes the fact that vaccination is a surgical procedure in every sense of the word, and should be carried out with the very strictest regard to aseptic surgery. We can not too emphatically impress our patients with the fact, and remember it ourselves, that from the inception of the wound until its complete healing first, last, and all the time, perfect cleanliness, as near as we can attain it, is the essential thing.

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[1] Lancet-Clinic, Nov. 26, 1898.

DR. C. O. PROBST, Columbus, Ohio.—There is one question brought up by Dr. Ravold. We have had two deaths reported in our state from tetanus following vaccination, one in Cleveland and one in the city of Columbus; and it has done a very great deal to delay the vaccination of our people. Tetanus developed in from three to four weeks after vaccination. We have with us an eminent bacteriologist, and I want to propose the question to Surgeon-General Sternberg as to the incubation period of tetanus. Is it not a fact that if tetanus should be introduced at the time of the vaccination, it would develop in less than twenty-one days?

SURGEON-GENERAL GEO. M. STERNBERG, Washington, D. C.—I can not tell you exactly the period of incubation in tetanus. My knowledge of bacteriology does not fit me to answer that question offhand any better than the others here who have had an opportunity of studying and observing tetanus following a wound. That is where you get your best evidence. My impression is that at any time from six to seven days up to a longer period, fifteen to sixteen days, perhaps, tetanus may develop. I would not want to speak in a positive way without looking up the records a little. But with reference to tetanus following vaccination, I should say that the great probability is that tetanus is due to an infection subsequent to the operation of vaccination; that it is due to dirt getting into the ulcer rather than to tetanus spores introduced at the time of vaccination. It is true that if there is neglect on the part of those who collect the vaccin, there is a possibility of tetanus spores being present if the calf has not been properly cared for; and if the abdomen where it has been scarified and where the vaccination pustules develop has been soiled by earth, you would expect to have tetanus spores there; this should be borne in mind carefully. The glycerinated lymph is certainly a great improvement, because of the fact that most bacteria very soon die out in the glycerin, but as to the tetanus spores, they are very resistant, and I doubt very much whether they would quickly die out in glycerin. All non-spore-bearing micro-organisms do perish within a short time in the glycerinated lymph, while the vaccin infectious material, whatever it be, preserves its full power for a long time, but tetanus spores would probably retain their vitality in glycerin for a considerable time. I think that is a matter well worth looking into, and which some of our bacteriologists ought to determine by experiment.

INFECTIOUS ULCERATIVE STOMATITIS.*

BY JOHN S. MARSHALL, M.D.,

CHICAGO.

Stomatitis is an inflammation of the mucous membrane of the mouth. All inflammatory conditions which involve the gums, the inner surfaces of the cheeks, the lips and the tongue are usually included under the general term, "stomatitis." The affections which are thus included are, with few exceptions, confined to the period of infancy and childhood. Adults seldom suffer from these affections except as manifestations of some other morbid condition. The forms of inflammation of the mouth which are most common are stomatitis simplex, stomatitis catarrhalis, stomatitis aphthosa, stomatitis parasitica and stomatitis ulcerosa.

A clinical study of the inflammatory affections of the mucous membranes of the mouth will reveal in certain features a close resemblance to the inflammatory affections as they appear in the skin, while in other points they will present features which are common to inflammatory conditions of the mucous membrane in general. It has frequently been noticed, that "in measles a spotty or macular eruption appears upon the oral mucous membrane, and in scarlatina punctate or diffuse scarlet eruption," while "in smallpox, chickenpox, herpes, pemphigus, and in foot-and-mouth disease"—an infection from cattle—"there are eruptions of vesicles and pustules, which pass through the same stages as those of the skin." (Ziegler.) Erysipelas of the face not infrequently presents an inflamed condition of the oral and nasal mucous membrane, with phenomena similar to those of the skin, while syphilis and scurvy are accompanied by characteristic oral symptoms. Diphtheria is not always confined to the tonsils, pharynx, uvula and velum palati, but may likewise involve other portions of the mouth. Certain drugs, also, such as mercury and iodin and the mineral acids, often produce inflammatory conditions of the oral mucous membrane and of the gingivæ.

Stomatitis Simplex is the mildest form of stomatitis, and is generally expressed in a more or less intense redness of the surface of the mucous membrane of the cheeks, the lips and the gums, in the form of rose-red elevated patches, and is due to a localized hyperemia of the parts. It is usually found in infants and young children, and is generally associated with some form of gastric or intestinal derangement. It rarely persists for more than a few days, and as a rule disappears with the subsidence of the gastric or intestinal disturbance. It is rarely seen in the adult. Occasionally it may persist, and gradually pass into a severer type of the disease known as stomatitis catarrhalis.

Stomatitis Catarrhalis, or follicular stomatitis is an affection which is often a symptomatic expression of some more grave constitutional malady, such as inflammatory conditions of the alimentary and respiratory tracts, etc., though it may be induced by the local irritation of erupting teeth. It is common among children living in unsanitary districts, but is rarely seen in adults. The disease is characterized by a diffuse inflammation, spreading over the cheeks, lips and gums, and appearing upon the hard palate as streaks and patches. The papillæ of the tongue are affected, many of them appearing as prominent tubercles. The mucous glands become swollen and prominent, and can be readily felt by passing the finger over the surface of the membrane. Later they appear as "grayish or grayish-red elevations of the surface, surrounded by a reddened areola." (Ziegler.) Tiny crypts sometimes develop, which are caused by the retention of the secretions. Swelling of the tongue, lips, cheeks and gums often occurs, accompanied by fetor of the breath, heat and dryness of the mouth, followed by an excessive salivary secretion. In the severer cases the gums become soft and spongy, and bleed upon the slightest provocation. Fissures form at the angles of the mouth and upon the lips, with exudation and the formation of crusts. The constitutional symptoms are fever, diarrhea, thirst, loss of appetite and sleeplessness.

Stomatitis Aphthosa, or canker sore-mouth, is by some authorities thought to be a peculiar form of stomatitis catarrhalis, for the reason that the aphthous patches occur upon the oral mucous membrane during a catarrhal condition. The disease is most common in sickly children during the periods of dentition, and occasionally later in life in those who are debilitated from illness or debauchery. It often occurs in women during menstruation, in pregnancy, and during the puerperal period. Occasionally it is associated with pneumonia, bronchitis, diphtheria, exanthematous diseases, ague, whooping-cough and tonsillitis. The disease appears in the form of small white or yellowish-white patches upon the mucous membrane of the edges of the tongue and at the gingivobuccal fold of the lips and the cheeks. They are slightly elevated above the surrounding membrane, and are exceedingly sensitive. The patches are surrounded by a more or less inflamed zone, and have a tendency to spread and coalesce, forming larger patches. The constitutional symptoms rarely exceed a slight elevation of temperature, loss of appetite, thirst and irritability.

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Stomatitis Parasitica or Thrush is a parasitic or mycotic affection, generally found in the mouths of infants and little children. The fungus which produces the disease is known as the "thrush fungus" or *oidium albicans,* which grows upon and between the layers of the epithelium, but develops most rapidly upon the squamous type of epithelium. It is most common among ill-fed and bottle-fed children, and is due to unwholesome milk and improperly cleansed nursing-bottles. The disease is infectious, and in foundling and maternity hospitals it spreads rapidly from child to child, if great care is not exercised in sterilizing the food and the feeding apparatus. The growth of the organism is favored by an abnormal acidity of the oral secretion, a debilitated condition of the system and bad hygienic and sanitary surroundings.

The disease appears as small, white, elevated patches on the inside of the lips, cheeks, sides of the tongue and just within the corners of the mouth. The mouth is dry and feverish, and the salivary secretion is scanty. After two or three days the patches assume a curdy, or soft, cheesy appearance. This curdy surface, the "thrush film," is easily peeled off, and leaves a denuded surface which bleeds easily. It is soon covered again, however, by a new growth of the parasitic organism. The denuded surface is exceedingly sensitive, and renders feeding very painful, so that it is with great difficulty that little children can take food. The extension of the disease to the pharynx, esophagus, tonsils, hard palate and air-passages, is not an uncommon course for it to pursue.

The constitutional symptoms are elevation of temperature, disorders of the stomach and intestines, with vomiting and diarrhea. The excreta from the bowels are often greenish in color, mixed with curdy masses of milk, and are often exceedingly acrid. causing excoriation of the anus, buttock, perineum, etc. The disease is sometimes seen in adults who have suffered from prolonged and wasting diseases like typhoid fever, tuberculosis, etc. In little children the disease sometimes terminates fatally from exhaustion and inanition.

Stomatitis Ulcerosa is a much more serious condition than any of the forms of stomatitis which have been mentioned, and is more often seen by the stomatologist, for the reason that it most frequently occurs in children of from 5 to 10 years of age, who are suffering from debility, induced by disease, deficient food or unhealthy surroundings. It is occasionally seen in adults who have been debilitated from disease or debauchery. Local injuries and irritations from diseased teeth, and chronic poisoning by mercury, phosphorus, lead and copper (Ziegler) may also be causative factors in the production of the disease.

The disease is first manifest in the margins of the gums, usually in the anterior part of the mouth by swelling, redness, loosening of the gums from around the necks of the teeth, accompanied by tenderness or pain. The loosened festoons and margins later become very much swollen and congested, partially covering the crowns of the teeth; finally they take on a purple hue, soften and slough away as yellowish masses, leaving an irregular ulcerating surface. In the more serious cases, the progress of the ulceration is rapid, and often extends to the deeper tissues, involving the border of the alveolar process, which may become necrosed, resulting in the loss of considerable portions, and even of several teeth. The breath is fetid, the salivary secretions are increased, and often mixed with pus and blood. The lymphatics become swollen and tender. The cheeks and lips opposite the ulcerated portions of the gingivæ sometimes take on inflammatory conditions and ulceration, accompanied with considerable swelling. Food is taken with difficulty. The disease usually appears as an acute affection, but occasionally it becomes chronic, and lasts for months, in which case it becomes troublesome to cure. (Tomes.)

The constitutional symptoms in the milder cases which involve only a limited area of ulceration are slight febrile disturbances and loss of appetite, which lasts for a few days and subsides upon the healing of the ulcerations. In the more severe cases in which the ulceration is extensive, involving the periosteum and the bone, the temperature may run quite high, and not subside for several days. The high fever is accompanied by thirst, loss of appetite and great restlessness. The disease sometimes resembles gangrenous stomatitis, or *gangrena oris.*

With this brief résumé of the history of the various forms of stomatitis which are generally recognized, and which I have introduced for the purpose of comparison, I desire to call attention to another form of ulcerative stomatitis which sometimes follows injuries to the gums from the extraction of the teeth, abrasions from hard foods or the vigorous use of the tooth brush etc., and for which I propose the term *Stomatitis Ulcerosa Nocens* or "Infectious Ulcerative Stomatitis."

The clinical characteristics of this form of the disease are the formation of ulcers at some point of injury, which at first appears in nowise different from the ordinary form of a localized ulcerative stomatitis, but which after the lapse of twenty-four to forty-eight hours, begins to spread rapidly along the margins of the gingivæ in all directions, involving both jaws and sometimes extending to the hard palate and the floor of the mouth. The margins of the gums assume a general ulcerative condition, accompanied by swelling, redness and considerable congestion of the parts, which bleed easily. Later they become covered with a dirty-white or yellowish-white pellicle or membrane—somewhat resembling the thrush film—which sloughs off after a day or two, destroying the festoons and leaving a ragged surface. The denuded surface is very red, and covered with coarse granulations which bleed upon the slightest provocation. The gums are loosened from the neck of the teeth, and the borders of the alveolar processes are exposed. Pus mixed with blood exudes from the inflamed tissue about the necks of the teeth. The breath and excretions are very fetid, and salivation is profuse. In these respects the symptoms resemble mercurial ptyalism. The ulcerated surfaces are exceedingly sensitive, and motions of the tongue and lips on this account are quite painful. Food is taken with difficulty. Accompanying the local manifestations there is a general febrile condition, temperature ranging from 100 to 101 F., thirst. loss of appetite and general malaise, sleeplessness and irritability of temper.

In illustration of the above clinical features of the disease, the following histories of cases are introduced.

Case 1.—Mr. A., an American, aged 24 years, clerk, was referred for special treatment by Dr. P. I. Lawrence, Chicago.

This gentleman had an abscessed lower molar of the right side extracted, which had caused considerable swelling of the jaw. The gum tissue had been somewhat lacerated upon the lingual side in the effort to remove the offending root. Two days later he returned with the injured gum ulcerated, the ulceration spreading to the adjoining teeth. Antiseptics had been used to cleanse the mouth, the alveolus irrigated and dressed, and a antiseptic mouth-wash prescribed. The disease, however, spread so rapidly that in forty-eight hours the gums of the entire lower jaw were involved, and it had attacked the anterior portion of the upper jaw. This was the condition when the case first came under my notice.

Diligent inquiry could not discover any constitutional conditions, like syphilis, mercurial or lead poisoning, etc., which would account for the presence of the disease. He had, however, recently been ill for a couple of weeks from a mild attack of la grippe.

Treatment.—The treatment consisted of first cleansing the mouth by irrigating it with a saturated solution of boric acid, followed by a 50 per cent. solution of 12-volume hydrogen peroxid in water, sprayed into the mouth and the approximal spaces between the teeth. The mouth was again irrigated with the boric acid solution, to remove all debris and the foam caused by the use of the peroxid, after which the gums were carefully dried and protected with rolls of bibulous paper, and the ulcerated surfaces swabbed with a 10 per cent. solution of zinc chlorid. The patient was furnished with a bulb atomizer and instructed to spray the mouth every two hours with 25 per cent. Listerine solution. This line of treatment was followed every day for a week, except the application of the zinc chlorid, which did not seem necessary after the third day, as marked improvement took place from this date. The case was discharged cured at the end of ten days.

The only constitutional treatment was a saline cathartic, which seemed to be indicated to relieve a tendency to constipation. The fact that local treatment alone, except that just indicated, was sufficient to control the case, precludes the possibility of syphilitic infection being the cause of the affection.

Case 2.—This was a married man, aged 34 years, of English birth, formerly a practicing dentist, but now an expert accountant.

History.—The patient stated that he had been overworked of late, and not well, that his gums had been congested and bled when the teeth were brushed; and, thinking that perhaps he had not been vigorous enough in the use of the tooth-brush, bought a new one that was quite hard and gave them a most thorough brushing before retiring. Next morning his mouth was so greatly inflamed that he could not use the tooth-brush, masticate his food, nor even take a cup of hot coffee. For the next two days he tried to allay the inflammation with various soothing preparations, with no benefit. At this stage of the case he presented himself for examination and treatment.

Examination of the mouth revealed extensive ulceration of the margins of the gums of both jaws, with ulcerating streaks upon the roof of the mouth, extending from the region of the first molars on each side nearly to the median line, and looking as though they had been cauterized with silver nitrate. The ulcerations in all parts of the mouth were covered with the same dirty-white or yellowish-white film, and all the other symptoms corresponding to those of Case 1. In Case 2, however, nearly every tooth in the mouth had a ring of salivary calculus encircling the cervix. This was no doubt the cause of the congested condition of the gums which induced the bleeding on brushing.

Treatment.—This consisted of first cleansing the mouth, and then removing the salivary calculus. In all other respects the treatment was the same as in Case 1. He made a rapid recovery, and was discharged at the end of two weeks.

Case 3.—This case was almost identical with Case 1. It originated from the same cause, viz., the extraction of an abscessed lower molar, followed by ulceration of the gingival wound, and extension of the ulcerative process to the gingival borders of both jaws. In this case, which occurred in a young Jew, 24 years of age, there was a clear history of syphilis; infection having taken place two years before. He had visited Hot Springs and taken a course of treatment, but had taken no mercury nor iodid since his return four months before.

Treatment.—The treatment prescribed in the other cases was followed in this, excepting that after the third day, in consultation with his family physician, he was placed on the usual course of the iodids. From the first he rapidly improved under the local treatment, and at the end of ten days the local symptoms had disappeared. From this I think the inference may be safely drawn that the local disease was not the result of his syphilitic condition, as it is hardly to be supposed that the constitutional effect of the iodids would be manifested in so short a period, while at the same time it was evident that the case was improving before the iodids were administered.

Neither can the first or third cases be fairly attributed to infection from unclean instruments, as I am sure that the greatest care was observed in both cases to prevent such a contingency. The explanation would rather, it seems to me, be that of autoinfection from the pus micro-organism of the alveolar abscess coming in contact with a freshly wounded surface of the gum, or from some of the other pathogenic organisms which so constantly inhabit the mouths of even cleanly persons.

The second case was also, without doubt, due to auto-infection from the last-named causes, through the brushing and lacerating of the already inflamed gums; thus furnishing the only condition lacking before to establish an infectious inflammation, which by reason of the debilitated condition of the system, it was unable to successfully resist. The acute character of the symptoms and the rapid spreading of the ulceration from the initial point of injury, seem to prove the infectious nature of the disease.

Not to Be Told Assistant.—In the English case of Ensor vs. Wakefield, in an action for slander brought against a physician for stating to his assistant that an attending physician in a case where he had been called in was drunk, the Queen's Bench Division decided against the contention that this was a privileged communication. Judge Ridley, in passing on the question, said: "I am sorry this case has taken this line. I am quite clear that there was no duty upon the defendant to make a communication of this sort to his assistant. There was no duty which enabled a doctor to tell an assistant that another doctor who attended a patient was asked not to attend that patient for a particular reason. I therefore hold that there was no privilege."

ALOPECIA.*

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The alopecia to be considered in this paper is the form of the disease that so commonly affects young adults, and which has no observable connection with any other disease.

In the male, this form is of very frequent occurrence. In the female, on the contrary, it is comparatively infrequent. Now, when a farmer finds his expected crop of wheat or corn a failure in some places, and a success in others, he at once asks himself: how does the soil where the failures exist differ from that where the crop is satisfactory? Is it, in comparison, more wet or more dry, more stony or more sandy, or what is the difference, for difference there must be, otherwise the crops would be the same? In the same manner, the investigator, seeking the cause of alopecia, and finding the disease common in one sex and rare in the other, may ask himself, what difference is there between the sexes that can affect the nutritive properties of the scalp? Is it a difference dependent on physical structure, habits or mode of life, or what is it?

Whatever it may be, it can not have to do entirely with any permanent anatomical difference between the sexes, such, for instance, as the presence of beard in the one and its absence in the other; for if it did, alopecia in the male would be practically universal. It must be a condition present in some cases and absent in others. To the writer, the most important one of all lies in the fact that in the male there is often a mode of respiration that allows of undisturbed retention of residual air at the apices of the lungs, while in the female this condition is almost never found, except among the aged. The reasons for this difference may be explained as follows: Through the provision of Nature, to provide breathing space during gestation, females have a more easily expansible thorax than have males. This is of the commonest observation. In "Gray's Anatomy" we find the following: "The ribs are more generally movable in the female than in the male." Observation shows this to apply particularly to the ribs of the upper part of the thorax. Again, the mode of dress of the female, of at least all civilized nations, is such that descent of the diaphragm, sufficient to permit of the so-called abdominal mode of respiration is completely prevented.

In the male these conditions are reversed. The costal mode of respiration is made difficult by the lessened mobility of the ribs, particularly of those of the upper part of the thorax. "Gray's Anatomy" says: "The first rib is more fixed than the others, on account of the weight of the upper extremity and the strain of the ribs beneath." Abdominal breathing, on the other hand, is made easy by the absence of any resistance to the free descent of the diaphragm.

These facts are submitted to prove that in females costal respiration is regularly found, while in males, on the other hand, abdominal respiration is very frequently met with. Foster, in his "Medical Dictionary," defines costal respiration as "due chiefly to the elevation and depression of the ribs, especially the upper ones, the diaphragm taking a comparatively small part," and abdominal respiration as "due principally to the contraction of the diaphragm and the elasticity of the abdominal walls and the viscera." Now, considering the great elasticity of all gases, it is evident that in costal breathing it is at the apices of the lungs that the greatest movement of air takes place, while in the abdominal variety it is in the lower lobes of the lung that the same action is produced. All this is given in support of the statement made at the beginning of this paper, that, at the apices of the lungs of males residual air is more often found, and less often disturbed, than it is in the case of females.

Now, it seems not unreasonable to suppose that residual air, resting undisturbed in any part of the lungs in close contact with venous blood, will soon lose its supply of oxygen, and also will soon become saturated with the excrementitious materials, carbon dioxid, watery vapor and organic substances, the normal constituents of respired air. And also, that when this has occurred, blood coming to it from the right side of the heart, to have its carbon dioxid and other substances exchanged for oxygen, will return to the general arterial circulation, not only without the oxygen, but possibly with its original load of impurities increased.

Considering the foregoing we may deduce the following: Frequently in males, infrequently in females, there is vitiation of the blood brought about by faulty breathing. It is the contention of the writer that observed facts show this depraved blood to be, in some way, intimately connected with the etiology of alopecia. The manner in which it acts, however, is simply conjecture. However, if one keeps in mind how various substances, such as lead, digitalis, ergot, etc., once introduced into the blood current, choose particular organs or tissues on which to exert their peculiar effects, it is not very difficult to imagine that the gases or solids of ordinary respired air circulating in the same blood current may have a similar selective action in reference to the tissues under discussion. Or, again, it may seem not impossible that these excrementitious substances, left in the blood, may lower the vitality of the whole system; and on this account that part of the body may suffer most which has the poorest nourishment. This might explain why, in alopecia only that part of the scalp is affected that is farthest from the heart and lies over the unyielding tendinous aponeurosis of the occipito-frontalis muscle. The writer inclines to this view. Still, some change may be produced in or by the altered blood, to permit of the development of a special microbe, which may be the direct cause of the disease. If this is so it is in accordance with the theory of Sebourard published two years ago that alopecia is caused by long chains of microbes present in the hair follicles themselves.

To establish a theory, however, results rather than methods are important. The writer has studied this theory, and experimented with a line of treatment based on it during the past eight years. This has been, in the main, direction to the patient to see that in respiration the upper part of the thorax is continually expanded and contracted, or, in other words, to see that inspired air is not allowed to become stagnant at the apices of the lungs. A local treatment of secondary importance will be described later.

All this may seem very simple, but experience with it shows that such is not the case. To get a patient to make continual muscular effort to carry on a vital function, that all his life has been an automatic one, demands of the physician much and oft-repeated persuasion and direction. The chief difficulty lies in getting him to persist in the treatment long enough to get promising results. When he has done this, however, the rest of the way is plainer sailing, not only on account of the encouragement from the prospect of success, but also on account of the changed mode of respiration becoming more fixed and natural.

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In every case in which the directions of treatment have been followed explicitly, the results have been such as to lead the writer to believe that the theory on which the treatment is founded is a sound one. These results occur as follows: A week or ten days after the establishment of the treatment, the dandruff, which is almost becomes more moist and oily; also the clavicles, usually prominent in these cases, begin to disappear from view, always present, disappears entirely and the hair itself and also the appetite and general vigor of the patient improve. This seems to lend support to the view, mentioned above, that the alopecia is connected with a lowering of the vitality of the whole system. At this time, too, the nails become more soft and pliable, a circumstance not surprising, when one considers how they and the hair are appendages of the same cutaneous tissue. After some weeks, usually two to four, the exact time depending on the thoroughness with which the treatment is carried out and also probably on the physical condition of the patient as well, new hairs begin to appear, first among those left standing, and then as sort of outposts along the margin of the bald areas. The new growth may be described as backing up against the course followed by the hairs in disappearing; so that the places which were the last to become bald are the first to become covered again. The process of recovery is a slow one and somewhat resembles the progress of the original disease.

The new hairs do not resemble the slender, light-colored lanugo hairs, so often seen to appear as a result of simple friction and stimulation of the scalp. They are of good size and correspond in color with their more hardy neighbors. Their vitality, however, is for a long time below normal; and with any continuous interruption of the treatment they readily fall out. With rigid observance of the details of treatment, however, they mature and become permanent.

The cases suitable for treatment include all that have the follicles intact. Those, where for a long time the whole upper part of the head has been bald, and where there is atrophy, both of the hair follicles and of the subcutaneous cellular tissue as well, so that the scalp, stretched and polished, bears outlines of the sutures and other inequalities of the skull beneath, are probably beyond the reach of any form of treatment.

There is another difference between the habits of the male and female, concerning this subject, that is of great importance, though secondary to the matter of respiration. This is in respect to the mode of wearing the hair, and the manipulation of it. In women it is worn long and is much combed and brushed. There results from these circumstances two important effects. The first is that each particular hair has each day more or less strain put on it, with the result that those that are poorly nourished or dead are drawn from their follicles, as nature intended they should be, and an opportunity given for new hairs to develop from the papillæ thus set free. It has been estimated that the number of hairs normally shed each day from a healthy human scalp ranges from thirteen to two hundred. The second effect from the combing and brushing of long hair is that the scalp itself is irritated and is to some extent lifted from the underlying tissue. These circumstances result in a more or less hyperemia, which causes improved nutrition of the part.

In the male, generally speaking, the reverse of all this occurs. The hair is commonly worn short, and the combing and brushing bestowed on it amount to very little. And finally, when the hair begins to fall out and the need of every kind of stimulation becomes the greatest, it is usually cut shorter than ever and the comb and brush applied more lightly every day, in the hope of retaining in place as many of the hairs as possible. As a result of this wrong method of procedure, the scalp as a whole receives less blood than it should have and many of the hair follicles are left holding dead hairs, and their presence in time destroys the follicles.

Thus in the treatment of alopecia, we have, in the first place to modify the nutritive properties of the scalp or the fibro-cellular tissue beneath the scalp, or of both. This is accomplished by some change in the blood itself, brought about by getting with each act of respiration fresh air to all parts of the upper lobes of the lungs. This can be done only by the continuous use of the so-called costal mode of breathing. In the second place, as an adjuvant to the first, we have to remove from the hair follicles any dead or dying hairs that may be present, and also to stimulate the local circulation of the blood. These results can be accomplished by pressing the hair between the extended fingers and drawing smartly in the direction in which the hairs grow, or, where the hair is absent, by roughly crowding the scalp up into folds or ridges with the fingers. These manipulations should be carried out once or twice a day.

Along with all this, local stimulation by means of irritating applications is of value. The physician has any number of these from which to make a choice. One, consisting of 5 gr. of cerate of cantharides in an ounce of vaselin, or other oily substance, will serve as a type.

Now, the experience of one investigator has rarely, if ever, established a theory. In some places, even to-day, the value of vaccination as a prophylactic of smallpox is vigorously disputed. As said above, the writer thinks the theory here advanced is a sound one. He will never know whether it is or not however until it has been tested far beyond the limits of his own field of observation; and in the hope that its contents may not be wholly unconsidered by the profession, this paper is respectfully submitted.

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DISCUSSION.

Dr. J. F. Schamberg, Philadelphia—It seems to me that the view advanced by the writer as to the cause of alopecia must be regarded as mere conjecture or thory. He has overlooked the fact that hair growth is a secondary sexual characteristic, and that this in itself accounts for the difference of hair growth in men and women. There is no difference in the anatomic structure of the hair follicle itself, but there is in the luxuriance and longevity of growth. It is well known that if a man is emasculated, the hair growth, at least on the face, becomes modified and stunted, provided the operation is performed before the period of full sexual development. If the theory advanced be true, we ought to commonly observe alopecia in flat-chested individuals, and but rarely in robust men of great chest expansion. It ought, moreover, to be more frequent in women than in men, because of the greater expansion in the latter. At the last meeting of the American Medical Association, Dr. Blaine of Colorado, presented an equally original but no more convincing theory of the cause of baldness, claiming that shaving, as it increased the facial hair growth, drew away vitality from the hair of the scalp and therefore interfered with the growth in that region. He therefore advised men during the period of young adult life to allow the beard to grow in order not to deflect the innervation from its proper channel.

Dr. A. E. Carrier, Detroit, Mich.—If Dr. Parker was satisfied that residual air was the cause of his cases of alopecia, he should have attempted to overcome that condition, but should not have used any of the preparations which we ordinarily use in the treatment of this affection. However, he says he has used these as secondary measures. He has not proved his theory because he has not based his treatment on it alone.

Dr. D. L. Parker, Detroit, Mich.—In reply to the point made by Dr. Carrier, use is made of the remedies used regularly for the purpose of treatment of alopecia. Did you ever see a case of full recovery under the simple use of a stimulating line of treatment? In some of the cases referred to in the paper, improvement has taken place without recourse to local stimulation, but since the latter helps to bring the blood to the hair itself, and the more we get there the better and quicker the results of the treatment, I have added this to the treatment. I think my theory is based on sound principles, and hope I may have opportunity of making a report at some future time supplementing this.

ON SOME OF THE USES OF PEROXID OF HYDROGEN IN DERMATOLOGY.*

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NEW YORK CITY.

Specific action of remedies is a thing much desired in medicine, but rarely attained, as relatively few exist whose action can be depended on to be always the same. This is sometimes due to variation in the strength or quality of the remedy, and sometimes to the varying condition of disease.

Peroxid of hydrogen is a chemical combination of the ingredients of pure water, which always produces definite effects on the tissues with which it comes in contact, and under similar conditions will produce like results. But in order to have these results it is necessary that the article should be pure and fresh, for it is rather an unstable substance, and liable both to be imperfectly made and to alter and become less effective with time. In order, therefore, to secure the best results, great care should be exercised to secure a good preparation and that it be reasonably fresh, for specimens which decompose and generate gas are undoubtedly weakened.

Peroxid of hydrogen is an oxidizing substance, and destructive of organic life. All are probably acquainted with its action in the presence of pus, when it causes a bubbling or sizzing, which can be heard; it is not so generally known that about the same occurs when it is brought in contact with a freshly bleeding surface.

As is known, its action is parasiticidal and antiseptic, and it has found great use in connection with the treatment of suppurating surfaces and cavities, and in surgical procedures. There are some conditions which come under the care of the dermatologist where it is of great service.

The first of these, as might be expected, is *ulcer of the leg,* whether varicose or from other cause. Here the thorough application of it twice daily will sometimes be followed by the most brilliant results, when associated with other proper treatment. My plan is to have it applied, in full strength, as furnished, on a bit of absorbent cotton thoroughly soaked with it and laid over the raw surface for five minutes, morning and night. I generally have the application changed several times with each dressing, in order that the affected surface may be very thoroughly soaked and permeated by the peroxid. The same holds good in regard to ulcers of various characters, and in obstinate syphilitic ulcerations I have also seen the greatest benefit from the free use of the peroxid.

In many cases of superficial *epithelioma,* where a radical operation by excision is not practicable or is not allowed, the peroxid is of great value in promoting healthy cicatrization after the use of milder destructive agents. After curetting I frequently soak the surface well with it before applying a dressing, and if the surface is slow to heal I have the patient apply the same morning and night, before putting on the appropriate ointment. Also after mild cauterization the peroxid hastens the fall of the slough and subsequent cicatrization.

After operation on *lupus* the peroxid is also a very valuable adjuvant, and in a recent case where the lupus nodules were destroyed by frequent applications of a solution of arsenious acid, and the diseased tissue was about removed, the free use of the peroxid produced healing in a remarkably short time.

The *bleaching* properties of peroxid have long been used for changing the color of the hair, and advantage may be taken of this in connection with the growth of superfluous hair on the face of women. In a very considerable number of cases I have employed it, where the hair was too fine to admit of its removal by electrolysis, and yet where it was very perceptible and troublesome. Especially on the upper lip of girls, this condition is often the source of much distress. Here the slight downy moustache will be composed of innumerable fine hairs, perhaps with a few stronger ones at the ends, and it is quite impracticable in the early stages to practice electrolysis. Here the free and repeated use of the peroxid will produce a very material improvement in the appearance in a very short time. By blanching the hairs a moustache which was very striking will hardly be noticeable at a short distance.

But another advantage in the use of the peroxid in *hirsuties,* which, I believe, has not been heretofore mentioned, is a certain retarding influence which it exerts on the growth of the hair. This I have noticed in a number of instances for the past two or three years, much to the delight of several patients. This result is slow, but with a faithful continuance of the remedy the fine growth of hairs certainly diminishes; some of the stronger ones seem to grow and they can be removed by electrolysis.

In applying the peroxid to such cases it is often well to begin by diluting it one-half with water, and increasing the strength gradually, for when a strong specimen is applied to the healthy skin it will sometimes cause a desquamation, which is unpleasant.

Chloasma is another condition of the skin in which the action of the peroxid is sometimes very satisfactory, but sometimes it seems to fail. To be effectual it should be very freely applied, and allowed to soak into the skin, by means of cotton soaked in it, as spoken of for ulcers. It will cause somewhat of a desquamation, but this can be easily remedied by the use of a little lanolin and rose ointment, or by a borax and glycerin lotion.

In speaking thus of the local action of the peroxid I do not wish to overestimate its value, but simply to present my experience in the use of what has at times been of much aid to me in practice. It is a definitely acting, oxidizing agent, whose uses and value will undoubtedly increase with further clinical experience.

4 E. Thirty-Seventh Street.

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

DISCUSSION.

Dr. Douglass W. Montgomery, San Francisco—I wish to speak of the blanching effect of peroxid of hydrogen on surplus hairs. I have used it, and found it to have a remarkably happy effect. In these patients having a downy growth of fine, dark hair, which is almost impossible to remove by electrolysis, hydrogen peroxid used from time to time as occasion requires has an excellent effect. I have never observed, however, that it diminished the growth of hair. It would be rather surprising to me if it should, considering that so many "chemical blondes" use it for years with apparently no detrimental effect on the growth of the hair. I have never tried it in chloasma, but think it might have a temporary effect in blanching the skin. I can not see that it is likely to do any permanent good.

Dr. J. C. Dunn, Pittsburg, Pa.—I have used peroxid in cases of pigmentary disturbance and in cases of chloasma, and I have been disappointed in its use, not only when applied locally for freckles, but for deeper discolorations where I injected it into the skin. I have not used it for the blanching of hairs which appear on the faces of women, and I am a little surprised to hear the Chairman and gentlemen who have just spoken, mention this use as a beneficial one. If a woman is a blond, the hairs are already white, and in the case of a brunette, where the hairs correspond to the skin, it strikes me the white hairs would be a little bit more prominent than otherwise.

Dr. Fred. J. Leviseur, New York City—I believe that hydrogen peroxid is very useful in the treatment of hirsuties. It should be given a trial particularly whenever it is not feasible to remove the superfluous hair by electrolysis. It deprives the dark hairs of their coloring matter and, by bleaching them, renders them less conspicuous. This pleasing cosmetic effect keeps patients from the injurious applications of depilatories or the pumice stone, or the nefarious use of the epilating forceps or the razor. I have in a number of instances seen the growth of hair retarded and a quantity of the fine hairs entirely disappear from its use. This seems to me, however, not to be due directly to a change produced in the hair or its root, but to the establishment of a slight but very chronic furfuraceous dermatitis which in turn is followed by alopecia.

Dr. A. E. Carrier, Detroit, Mich.—Two or three years ago a druggist told me that women were in the habit of using hydrogen peroxid for moth patches and superfluous hair, and I have since used it at his suggestion, but I have never seen the result that Dr. Bulkley claims for it.

Dr. L. Duncan Bulkley, New York City—I could hardly believe it myself, except that in the case of a half dozen patients the amount of hair has certainly been so diminished in a remarkable manner. But it must be thoroughly applied in order to be effective, and I tell patients to dip a piece of absorbent cotton in the peroxid, until soaked, and to apply this to the skin, leaving it on there until it falls off, which may take several minutes. This gives a soaking, penetrating application which you can not get by simply sopping it on. It penetrates deeper, I am sure, into the hair follicles. This treatment has not been a matter of a little time with me, but my cases go back two or three years, and I have repeatedly noted a diminution of hair on the upper lip.

Dr. A. E. Carrier, Detroit, Mich.—Some time ago I made experiments on a hairy arm, with a combination of baryta and lime, with results which were surprising to me. Application after application resulted in the complete destruction of the hair.

Delegate—Was any ulceration present?

Dr. Carrier—No, sir.

Therapeutics.

Treatment of Acute Urethritis.

In his recent work on "Genito-Urinary, Venereal and Sexual Diseases," Dr. G. Frank Lydston says, regarding the internal medication of acute urethritis, that alkalies should be given throughout the disease, either alone or in combination with other drugs. The fluid extract of pichi has an excellent effect in soothing the inflamed mucous membrane. Infusions of buchu, slippery elm, uva ursi, linseed, etc., are all beneficial. The ergots of rye and corn are recommended by some as having a specific effect. In the early stages ergot does not seem particularly serviceable. Later on, however, it has an astringent effect. It should be given in liberal doses. The fluid extract of corn silk, 1 dram every two or three hours, has been highly recommended in acute gonorrhea. The remedy is disappointing in acute inflammation. Thirty to sixty grains of potassium or sodium bromid at bedtime usually causes the desired effect. The following mixtures are serviceable:

R. Fl. ext. ergotæ........................m. xv
Tr. gelsemii........................m. v
Potassii bromidi........................gr. xx
Tr. hyoscyami........................m. xxx
Syr. aurantii, q. s., ad........................℥ss.
M. Sig. At bedtime.

℞. Chloralis hydratis........................gr. v
Tr. aconiti rad........................m. iii
Sodii bromidi........................gr. xxx
Aquæ camphoræ, q. s., ad........................℥ss.
M. Sig. At bedtime.

Either of these combinations will usually prevent or relieve chordee. Opiates may be necessary, however, if erections are frequent and painful. Opium is slightly stimulating to the sexual organs, which detracts somewhat from its efficiency as an anodyne in these cases. This may be counteracted by combining moderate doses of tincture of opium with either chloral or potassium bromid. Where drugs fail, the cold-water coil will afford relief, and in addition benefit the inflammation. If the patient sleeps on a hard bed, with a knotted towel about his waist so that he can not comfortably lie on his back, painful erections are not so apt to occur.

Morphia is sometimes necessary, and is best given by suppository, plain or in the following combination:

R. Morph. sulph........................gr. 1/12 to 1/3
Ext. hyoscyami........................gr. ss.
Butyri cac, q. s.
M. Ft. suppos. No. 1. Sig. At bedtime.

The various balsamic preparations are most relied on in the treatment of gonorrhea. These should not usually be given during the increasing stage; more benefit is to be derived from them when not used early. There is no objection to the administration of sandalwood in the increasing stage; cubebs and copaiba, however, are more stimulating, and not advisable at this time. Sandalwood-oil is best administered in capsules containing from 10 to 15 minims. Of these from four to ten may be given daily. The limit of tolerance is sometimes indicated by gastric disturbance; more frequently by backache resembling lumbago, this being probably nephralgia from irritation of the kidneys. Sandalwood is more likely to cause this than copaiba and cubebs. During the stationary and declining stages copaiba and cubebs may be given. Of the two drugs, cubebs is more stimulating to the urethra, but least irritating to the stomach. Copaiba occasionally causes an unpleasant efflorescence or rash on the skin, sometimes simulating measles. Cubebs and copaiba may be given in doses of 10 to 20 drops of the oil four to five times daily, either in capsules or emulsion. The emulsion is preferable where the patient does not object to it. The doses of the balsams may be increased to the limit of tolerance. They should be given more liberally as the inflammation declines. The following balsamic emulsions are excellent:

R. Liq. potassæ........................ʒi
Bals. copaibæ........................ʒi
Ol. gaultheriæ........................m. x
Ext. glycyrrhizæ fl........................℥ss.
Saccharini, q. s.
Muc. acaciæ, q. s., ad........................℥iv
M. Sig. A teaspoonful every two or three hours.

℞. Ol. cinnamomi........................m. x
Ol. cubebæ
Sp. etheris nit., āā........................℥ss
Muc. acaciæ, q. s., ad........................℥viii
M. Sig. A tablespoonful three or four times daily. Cubebs may be given in powder in doses of 1 dram two or three times daily; this sometimes agrees with the stomach better than

either the emulsion or capsule. The formulas given are merely illustrative. Vidal advocates the use of gurjun balsam in doses of 2 grams (30 grains) before each meal. Taylor recommends the tincture of cannabis sativa, 10 to 15 drops in water three or four times daily.

Regarding local medication in urethritis, Dr. Lydston advises that during the increasing stage of urethritis injections should usually be dispensed with; if used at all, they should be very mild. A solution of potassium permanganate, 1/5000, or mercury bichlorid in strength of 1/30,000 to 1/15,000 is about the best routine injection for use at this period. Some cases are materially benefited by injections at this time; in most instances, however, they are irritating. Even where the injection seems beneficial it may lose its effect in a few days, when it becomes necessary to supersede it by some of the ordinary astringents in mild solution.

Good judgment is necessary in using astringents. They frequently prevent the normal evolution of urethritis by condensing the tissues and damming up the natural avenues of germ-elimination. In lieu of the above injections during the increasing stage anodyne injections may be given, the following being useful formulas:

R.	Atropiæ sulph.	gr. ii
	Bismuth subnit.	ʒiv
	Muc. acaciæ	
	Aquæ dest., āā	℥ii

M. Sig. Shake well and inject three times daily.

℞.	Tr. opii deod.	ʒii
	Bismuth subnit.	ʒiv
	Muc. acaciæ	
	Aquæ dest., āā	℥ii

M. Sig. Shake well and inject three times daily.

℞.	Morph. sulph.	gr. viii
	Cocain mur.	gr. ii
	Muc. acaciæ	℥i

M. Sig. Inject three times daily.

A mild and sedative astringent may be combined with the anodynes:

℞.	Plumbi acetatis	gr. iv
	Vini opii	ʒii
	Aquæ rosæ, q. s., ad	℥iv

M. Sig. Inject three times daily.

℞.	Sodii biboratis	gr. xx
	Morph. sulph.	gr. vi
	Aquæ rosæ.	℥iv

M. Sig. Inject three times daily.

In the stationary stage the strength of astringent injections may be slightly increased. It seems that it is not so much the form of astringent as the method of its use that determines the beneficial effects. Many astringents act about the same when properly used, although in some cases it is necessary to vary them. The most popular astringent is zinc sulphate. This is quite uniformly beneficial. Zinc sulphocarbolate or iodid is to be preferred. Silver nitrate in a strength of 1/8 to 1/2 grain to the ounce of water is often serviceable. Some recommend it as the best routine injection.

The following are illustrative astringent combinations:

℞.	Zinci sulphate (or acetate)	gr. xii
	Morph. sulph.	gr. x
	Glycerini	℥i
	Aq. rosæ.	℥iii

M. Sig. Injection.

℞.	Zinci sulphocarbolatis	gr. xvi
	Glycerini	℥i
	Aq. rosæ	℥iii

M. Sig. Injection.

℞.	Zinci iodidi	gr. viii
	Acidi carbolici	gr. iv
	Aquæ dest.	℥iv

M. Sig. Injection.

℞.	Plumbi acetatis	gr. xx
	Tr. opii	ʒii
	Aquæ rosæ, q. s., ad	℥iv

M. Sig. Injection.

Vegetable astringents are often preferable to mineral. Matico, hydrastis, catechu, kino, and the like, are very popular; their efficacy depends on the tannic acid they contain. The muriate of hydrastin is very efficacious. An excellent vegetable astringent is the fluid extract of hamamelis Virginica. The following formula is very serviceable:

℞.	Hydrastin mur.	gr. x
	Ext. hamamelis fl.	ʒii
	Glycerini	℥ss.
	Aq. dest., q. s., ad	℥iv

M. Sig. Injection.

As the inflammation subsides, the strength of injections may be increased. This should be cautiously done, however; in no instance should an injection that produces considerable pain be continued. Nothing more than slight smarting is warrantable. In some cases the injection does not produce much immediate discomfort, but smarting during micturition increases. Under such circumstances either the strength of the injection should be diminished or some other form submitted. This is especially pertinent to injections of mercury bichlorid. In using this drug in a strength of even 1/16 grain to the ounce, patients will often complain, in a day or two, of severe smarting in micturition.

Thallin sulphate is often of service in a strength of 20 grains to the ounce of rose water.

Iodoform emulsion has been used in acute urethritis, but it does not seem so efficacious as many other drugs. In chronic urethritis, however, it may be used to advantage if the patient does not object to its tell-tale odor.

Various new preparations of silver are becoming quite popular in the treatment of urethritis. There is a growing conviction that silver is the coming antiseptic *par excellence.* It is too early, as yet, to decide positively as to the merits of the new preparations; but so far as the author's experience has gone, they are very valuable. Injections of argonin, beginning with 2 per cent. and increasing gradually up to 8, or even 10 per cent., often act splendidly. Protargol in .5 per cent. solution appears to be less irritating and quite as reliable. Nargol, a new combination of silver and nucleins, merits a trial. Mercurol, the latest mercurial antiseptic, seems promising.

Indications for Balsamics in Gonorrhea.

In a recent clinic at the Hospital St. Louis, Professor Fournier said that balsamics, to be followed by good results in gonorrhea, must be administered according to certain definite rules.

1. As an abortive treatment,the employment of balsamics is always attended with failure.

2. The treatment of gleet, morning drop, by balsamics is equally unsuccessful.

3. Balsamics are not indicated during the acute inflammatory stage of acute urethritis, and if they are administered in this stage one of two conditions may result: either there remains a light discharge consisting of a few drops, during the day, or there remains the morning drop. But, now, if their administration be discontinued, the discharge reappears with its former abundance. The untimely employment of balsamics is the cause of 80 per cent of blennorrhea or gleet.

4. Balsamics should not be employed before the end of the first month of the disease. At about this time the discharge is three-fourths lessened, has lost its greenish tinge, and is light yellowish. The timely administration of balsamics is followed in the great majority of cases by recovery. The inflammatory period, however, must be over. There must be absence of pain on urination, absence of chordee, and diminution of the discharge, which must be yellowish and ropy.

5. Balsamics must be given in large doses, a mixture of 10 grams (2½ dr.) of cubebs and 3 grams (47 grains) of copaiba is usually successful. Sandalwood and other preparations give equally good results. It is important to begin with large doses, and continue them for ten or twelve days, then gradually diminish the dose, for a sudden stoppage of the medicament would be followed by a return of the discharge.

6. The drug must be given thrice daily during the entire treatment. The amount of fluids ingested should be limited to avoid too great dilution of the balsamic eliminated.

7. There is no advantage in alternating the balsamics. The one that has been selected is to be continued. If at the end of ten days the discharge is not almost completely checked, discontinue the remedy for from eight to ten days. At the end of that time give it another trial.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Standard (Chicago), December.

1.— Etiology and Significance of Uterine Displacements. H. D. Niles.
2.— Pathogenesis and Therapeutic Indications of Functional Nervous Diseases. John Punton.
3.— Eighty-six Cases of Anesthesia. Anna E. Blount.
4.—*Management of Acute Delirious Mania. Frank C. Hoyt.

Chicago Medical Recorder, November.

5.—*Complications of Diphtheria. I. A. Abt.
6.—*Value and Necessity of Bacteriologic Examinations in All Cases of Sore Throat. G. H. Weaver.
7.— Six Tumors of the Brain. Hugh T. Patrick.
8.—*Case of Raynaud's Disease. H. N. Moyer.
9.— Plastic Operation on Fallopian Tubes: Cirrhosis of Liver. Gastroenterostomy for Pelvic Neoplasm. Emil Ries.
10.—*Report of Case of Intestinal Obstruction following Vaginal Hysterectomy. T. J. Watkins.
11.— Implantation of Both Ureters into Sigmoid Flexure. Carl Beck.
12.— Stretching of Nerve for Sciatica. A. B. Strong.
13.—*Case of Erysipelas of Nose and Maxillary Sinus Complicated by Facial Erysipelas. O. J. Stein.
14.—*Case Showing Simultaneously the Eruptions of Psoriasis and Dermatitis Herpetiformis. L. C. Pardee.
15.—*Double Psoas Abscess Treated by Open Method; Incision Internal to Anterior Superior Spinous Process of Ilium; Curettage and Drainage; Apparently Cured. A. H. Ferguson.
16.— Some Demonstrations in Proctoscopy. J. R. Pennington.

Chicago Clinic, November.

17.— Unique Case of Double Inguinal Hernia: Illustrated. W. T. Eckley and Chas. Davison.
18.— Diagnosis of Incipient Phthisis. J. H. Salisbury.
19.— Membranous Conjunctivitis Produced by Bacillus Influenza; Foreign Body Imbedded in Lens Removed by Electro-Magnet. F. A. Phillips.
20.— Anesthesia and Anesthetics. W. A. Kuflewski.

Archives of Pediatrics (N. Y.), December.

21.—*Importance of Prolonged Rest in Bed after Acute Cardiac Inflammation in Children. L. Emmett Holt.
22.—*Case of Heart Lesions. A. C. Cotton.
23.— Peliosis Rheumatica in a Lymphatic Child. J. Park West.
24.— Case of Multiple Osteomyelitis in an Infant. T. M. Rotch.
25.— Scorbutic Membranous Colitis. J. H. Fruitnight.
26.—*Infantile Scurvy—Mild Type. Francis Huber.
27.— Use of Gruels as Diluents of Cow's Milk. H. D. Chapin.
28.— Diphtheria and Serum-Therapy, with Especial Reference to Cuba. L. Duenas.
29.— Case of Hydrocele of the Cord Following an Operation for Strangulated Inguinal Hernia. Burr B. Mosher.
Irwin.
30.— Strangulation of Fetus in Utero by the Umbilical Cord. J. W.

Medical Herald (St. Joseph, Mo.), October.

31.— Intestinal Auto-Intoxication: Its Prevention and Treatment. F. W. Barclay.
32.— Scrofulous Diathesis. A. E. King.
33.— Death by Electricity. F. E. Coulter.
34.— New Method of Administering Creosote. W. H. Vail.

Illinois Medical Journal (Springfield), December.

35.— Use of Schleich's Mixture for General Anesthesia in 110 Operations in the Nose and Throat. W. K. McLaughlin.
36.—*Adipose Tissue an Etiologic Factor in Hernia. A. H. Ferguson.
37.—*Surgical Treatment of Hemorrhage from Gastric Ulcers, with Reports of Two Cases and Animal Experiments. E. Wyllys Andrews and D. N. Eisendrath
38.— Influence of Biologic Research on Surgery and Medicine. W. J. Fernald.

Yale Medical Journal (New Haven, Conn.), December.

39.— Successful Case of Gastro-Enterostomy. Charles E. Taft.
40.—*Etiology of Acute Peritonitis. W. L. Barber.
41.—*Diagnosis of Peritonitis. W. H. Carmalt.
42.—*Treatment of Acute Peritonitis. T. H. Russell.

American Medical Compend (Toledo, Ohio), December.

43.— Acute Rheumatism; Gonorrheal. Wm. A. Dickey.
44.— Introduction to Hematology. J. H. Jacobson.
45.— Notes on Variation of Glycosuria in Diabetics. Frederick Kraus, Jr.

Journal of Nervous and Mental Diseases (N. Y.), December.

46.—*Common Forms of Meningitis, and Their Recognition, with Special Reference to Serous Meningitis. C. L. Dana.
47.—*Notes on Three Anomalous Cases in one Family. H. C. Wood.
48.— Acute Delirious Mania. F. J. Mann.
49.—*Case of Subdural Hemorrhage Causing Anemia, without any other Form of Aphasia. G. M. Hammond.
50.— Motor Aphasia. J. Fraenkel and B. Onuf.
51.— Anomia and Paranomia, with Some Considerations Regarding the Naming Center in the Temporal Lobe. C. K. Mills.

Medical and Surgical Bulletin (Nashville, Tenn.), November.

52.— Operation on Cervical Ganglia of the Sympathetic for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.

Memphis Medical Monthly, December.

53.—*Grain of Truth and the Grain of Salt. E. H. Martin.
54.—*Medicine of To-day. Frank A. Jones.
55.— American Gynecology. Byron Robinson.
56.— Malarial Hematuria. J. K. Hampson.
57.— Four Cases of Appendicitis. T. J. Crofford.

Cleveland Medical Gazette, November.

58.—*Study of Visceral Anatomy. Byron Robinson.
59.— Report and Discussion of a Case. Howard S. Straight.
60.— Tuberculosis of Hip-Joint. H. A. Becker.
61.—*Simple Device for Rapid Hypodermoclysis in Combatting Shock. E. O'Neill Kane.

St. Louis Medical and Surgical Journal.

62.— Clinical Consideration of Chorea. Milton P. Creel.
63.— Burns and Their Treatment. H. B. McKlveen.

Dominion Medical Monthly (Toronto), November.

64.—*Diseases of the Kidney, Amenable to Surgical Treatment. Christian Fenger.
65.— Notes on Diagnosis of Diseases of the Stomach. Graham Chambers.

International Journal of Surgery (N. Y.), December.

66.—*Value of Operative Treatment in Spina Bifida, with Description of New Method of Closing Cleft in the Spine. W. B. Reid.
67.— Regional Minor Surgery. G. G. Van Schaick.
68.— Introductory to Mechanical Diagnosis and Treatment of Urethral Diseases. F. C. Valentine.
69.—*Modern Surgical Treatment of Hemorrhoids. G. M. Blech.
70.— Technic of Surgical Gynecology. A. H. Goelet.
71.— Treatment of Fractures. W. L. Estes.
72.— Drainage of Uterus. Marcell Hartwig.
73.— Case of External Esophagotomy. C. H. Magee.
74.—*Complete Prolapse of Ovarian Tumor Through Anus: Operation: Recovery. J. H. Baughman.
75.— Scar Tetanus. C. B. Kibler.
76.— Asepsis in Emergencies. W. C. Wood.
77.— Which is Preferable, the Subcutaneous Nailing or Wire Suturing of United Fractures? W. L. Hughlett.

Indiana Medical Journal (Indianapolis), December.

78.—*Clinical Features of Malarial Fever at Camp Mount. W. T. S. Dodds.
79.—*Surgery of Inguinal Hernia. W. V. Morgan.
80.— Relation of Sinus Disease and Meningitis to Purulent Disease of the Middle Ear. Walker Schell.

Louisville Monthly Journal of Medicine and Surgery, December.

81.—*Intestinal Obstruction from Biliary Calculi. J. Wesley Bovée.
82.— Lithiasis. R. A. Bate.
83.—*Vesico-Rectal Anastomosis. Jacob Frank.
84.—*Surgical Tolerance and Results. F. F. Bryan.
85.—*Modern Surgical Treatment of Hemorrhoids. G. M. Blech.
86.—*Intolerant Ulceration of the Rectum. S. B. Taylor.

Journal of Medicine and Science (Portland, Me.), November.

87.—*Ethmoid Bone and Nasal Catarrh. Arthur F. Sumner.
88.—*Antitoxin in Diphtheria. L. D. Rand.
89.—*Hypodermic Syringe in Vaccination. F. H. Gardiner.
90.— Urethral Instrumentation in the Male. B. B. Foster.

Alabama Medical and Surgical Age (Birmingham), November.

91.— Report of Some Sarcomata of the Jaws. W. H. Hudson.
92.— Pus Involving Viscera and Adjacent Structures. W. G. Bogart.
93.— Some Remarks on Typhoid Fever. T. L. Robertson.
94.— Orchitis. W. T. Berry.

Ft. Wayne (Ind.) Medical Journal-Magazine, November.

95.—*Forcible Corrections of Spinal Curvatures. Frank Greenwell.

Texas Medical Journal (Austin), December.

96.— Evils of Present Methods of Education. J. S. Lankford.
97.—*Rational Treatment of Smallpox. T. C. Osborn.
98.— A Walking Case of Typhoid Fever—Perforation and Death. J. H. Reuss.
99.— Intestinal Suture and the Use of a Potato Cylinder. M. B. Saunders.

American Therapist (N. Y.), November.

100.—*Formalin: Its Good and Bad Qualities. Ely Van de Warker.
101.— Papain in Children's Practice. Dr. Goliner.
102.— Clinical Observations on Peptomangan. Paul Chester.

Medical Age (Detroit, Mich.), November 25.

103.—*Case of Raynaud's Disease. Harold N. Moyer.
104.— Case of Triple Fracture of Forearm; Compound Fractures of Radius and Ulna United with Silver Wire. C. W. Hitchcock.

Medical Fortnightly (St. Louis, Mo.), December 1.

105.—*Lithopedion with Specimen and Pathological Report. E. A. Crain.
106.—*Physiology. A. L. Benedict.
107.— Scattered Leaves From a Physician's Diary: the Professor of Bacteriology. Albert Abrams.

Virginia Medical Semi-Monthly (Richmond), November 24.

108.— What Shall Be Done with Illegal Practitioners in the State? R. S. Martin.
109.—*Four Recent Cases of Gall-Stones, with Remarks. Hunter McGuire.
110.—*Fevers of Southside Virginia. Henry C. Beckett.
111.—*Blisters in Pneumonia. Jesse Ewell.
112.— Penetrating Injuries of Eyeball. John P. Davidson.
113.— Alexander Operation in Retrodeviations of Uterus. Hugh M. Taylor.
114.—*Cold Water—Internally as well as Externally—in Treatment of Typhoid Fever. J. N. Killough.
115.— Malnutrition and Its Treatment. Walter Sands Mills.

Philadelphia Medical Journal, December 9.

116.— Law of the Action of Medicines. Elmer F. Gould.
117.—*Pyelonephritis of Pregnancy. Charles B. Reed.
118.—*Finsen Phototherapy. George G. Hopkins.
119.—*Improved Method for Control of High Temperature of Human Body with a Minimum of Shock and Discomfort to the Patient. C. C. Booth.

120.—*"Saturation Method" in Management of Laparotomy. Stewart Lewis.
121.—*Abdominal Hysterectomy at 79. J. F. Baldwin.

Medical News (N. Y.), December 16.

122.—*Treatment of Pneumonia as Based on Recent Views as to Its Pathology. Andrew H. Smith.
123.—*Exploration of Abdomen as an Adjunct to Every Celiotomy. Howard A. Kelly.
124.—*Neurasthenia; Its Symptoms and Treatment. Landon C. Grey.
125.—*Bacteriology of Typhoid Fever. Wm. H. Park.
126.— Ulcerative Stomatitis: Aneurysm of Aorta; Chronic Nephritis; Erysipelas of Face. H. A. Hare.
127.— Treatment of Peritoneal Cavity in Certain Rare Forms of Infection from Appendicitis. John A. Wyeth.

New York Medical Journal, December 16.

128.—*Micrococcus Intertriginis Rossbach. Max Meyer.
129.—*Study of Shortening of Tibia and Femur in Fifty Cases of Tuberculous Disease of Hip Joint. Russell A. Hibbs.
130.—*Confined Suppuration of Frontal Sinus, with Spontaneous Rupture, including Report of a Case. D. Braden Kyle.
131.—*Fibrous Tumor of Naso-Pharynx. Sequel. E. Fletcher Ingals.
132.—*Potentialities of the Physician. (*Concluded.*) Kenneth W. Millican.
133.—*Rhinedema. H. Holbrook Curtis.
134.— California Climate and Chronic Diseases of Kidneys. William H. Dukeman.
135.— Radical Cure of Hallux Valgus. Russell S. Fowler.
136.—*Malarial Infection as Factor in Causing Eye Disease. Paul Turner Vaughan.

Cincinnati Lancet-Clinic, December 16.

137.— Fish Bone in Rectum. G. J. Monroe.

AMERICAN.

4. **Acute Delirious Mania.**—This condition, described by Hoyt, is especially difficult to treat, and he recommends hypernutrition as the first thing, the food to be administered by the nasal tube, if not taken voluntarily. Before it is introduced the stomach should be thoroughly washed out, and this procedure should be carried out not less than twice and often three or four times daily, with an alkaline fluid, and continued until this comes away clear. The food should be wholly or partially predigested whenever digestion is much impaired. In other cases malted milk, milk and eggs and nutritious broths will answer. A mild laxative with the morning dose and a hypnotic with the evening one are required. He condemns bromids, chloral, opium, etc., to induce sleep, favoring the use of paraldhyde in preference. In very excited cases a maximum dose of 4 drams can be given without danger, but this is seldom required. The function of the skin must be carefully watched, and blanket baths may be given. Hospital treatment is required.

5.—See abstract in JOURNAL, October 28, p. 1100.

6.—Ibid, p. 1099.

8. **Raynaud's Disease.**—Moyer's patient was a man, 35 years of age. In some respects, the case resembles erythromelalgia. The pain was greater than commonly occurs in Raynaud's disease, and the redness which accompanied the swelling persisted a long time preceding the death of the part. It is well to remember that there are typical examples of erythromelalgia complicating Raynaud's disease, he says. The distinction is not an important one, as both conditions belong to disturbances in the innervation of the smaller arterioles. The main thing to be borne in mind in the diagnosis is to distinguish cases of gangrene due to thrombosis which are accompanied with marked vascular degeneration. One of the notable things in the history of the patient is the great number of attacks—twelve—covering a period of nearly eight years, and in only two instances have the attacks occurred simultaneously in two parts: in every other instance the preceding attack was completely healed before the following one appeared. The absence of left radial pulse, as well as the right, though it may be due to anatomic peculiarities entirely apart from the disease, is a significant coincidence. This paper is also published elsewhere, see title 103, this issue.

10.—See abstract in JOURNAL, October 28, p. 1098.

13. **Erysipelas with Complications.**—Stein's case demonstrates the importance of nasal inflammations as a cause of some cases of facial erysipelas that have often been designated as idiopathic. A patient, 35 years of age, of previously good health excepting a "chronic catarrh of the head," was taken suddenly ill with a temperature of 105 F., full, strong and rapid pulse, repeated vomiting attacks, and severe headache and pain over the region of the right cheek bone. On inspection, the right nares was found swollen and of a dusky red color and of glazed appearance, filled with a fetid muco-purulent secretion. There was marked tenderness on pressure over the right malar region, and tapping on the second molar tooth on the same side elicited painful sensations. The nostrils were flushed with an alkaline solution. The following morning temperature was reduced to 102.5 F., and by evening to 100.25 F. The nostril showed yellow pus under the anterior end of the middle turbinated body. The purulent discharge from the nose was now more free and profuse, and as a consequence, there was much less pain and tenderness over the parts. A bacteriologic examination of the secretions demonstrated the streptococcus erysipelatosus. On the third day the first signs of the cutaneous involvement made their appearance, which rapidly spread over the entire nose, forehead and right and left cheek, so that by the fourth day the entire face was involved. Cultures were taken from the vesicles and pustules on the skin and showed the streptococcus erysipelatosus. After ten days the entire cutaneous as well as nasal symptoms subsided.

14. **Psoriasis and Dermatitis Herpetiformis.**—Pardee's patient presented the eruptions of these two conditions simultaneously. Psoriasis developed ten years ago, at the age of 17, and then evidences of this disease have always been present on his skin; at times he has been nearly free of it for a considerable period, and again his entire body has been covered with the typical, dry, scaly eruption. Two years ago he began to experience violent itching of the skin of the back and limbs in regions not attacked by the psoriasis. This symptom persisted some months, and then there appeared, in the locations mentioned, groups of vesicles. These ranged from 2 to 3 mm. in diameter and occurred singly or in groups of from four to ten, arising from apparently normal skin, and also from an inflamed and reddened base. They were at first filled with clear and later with turbid fluid, soon forming crusts which dropped off, leaving a reddened and somewhat pigmented site. They showed no tendency to spontaneous rupture. Some of the groups were distinctly herpetiform in character, and others showed less regular arrangement. Mingled with these groups were occasional wheal-like elevations and numerous typical, unaltered psoriasis patches. Microscopic examination of a typical vesicle, 2 mm. in diameter, excised from the upper arm, showed practically the process described by Gilchrist (*Johns Hopkins Hospital Reports*, Vol. i). In addition there was noticed a phenomenon described by Pardee in connection with a severe case of herpes iris (*Bul. of the Johns Hopkins Hospital*, July, 1898), i. e., the rapid killing and disintegration of the polymorphonuclear leucocytes immediately on their leaving the blood-vessels. The diagnosis of a concomitant dermatitis herpetiformis was based on the clinical history, which was quite typical of the vesicular type of this disease, and the picture presented at the time of examination, which, apart from the intermingled psoriasis papules and patches, was quite clear. The microscopic findings could only be mistaken for those of a severe herpes iris, the clinical appearance of which was not even suggested.

15. **Double Psoas Abscess.**—Ferguson's patient was a boy, 5 years of age, on whom he had operated for double psoas abscess, treated by the open method. An incision was made internal to the anterior superior spinous process of the ilium, the abscess cavity curetted and drained, with complete recovery of the patient.

21. **Cardiac Inflammation in Children.**—Holt calls attention to the importance of maintaining rest in bed in the treatmen of children with acute cardiac inflammation, not only for two or three weeks but even for months. With adults the amount of work required of the heart may be regulated after the patient is sitting up or even moving about, but with children this is impossible, therefore strict confinement to bed is essential and should be continued long enough for the heart to regain its tone and the circulation to readjust itself. He has not found it as difficult in practice to carry out this method as he had anticipated, and he reports two cases showing its benefit and one where neglect was disastrous.

22. **Case of Heart Lesions.**—In the case reported by Cotton there were found the following lesions: stenosis of the pulmonary conus; malformation of the pulmonary valves; aneurysm of the ventricle wall; acute mural endocarditis; defective—perforate—ventricular septum; together with pleural, pulmon-

ary, hepatic, and renal disease, also disease of the spleen and general anemia. The streptococcus was found in the lungs and in the aneurysm of the heart wall.

26. **Infantile Scurvy.**—Huber describes scurvy of a mild type as it occurs in children brought up on condensed milk, artificial foods of various kinds and sterilized milk diluted with water or cereals. The patients are of the well-to-do class and rachitic. The prominent symptoms are tenderness, restlessness and prolonged spells of screaming and crying. No digestive disturbances, vomiting, colicky pains, etc., were noticed, nor were hemorrhages observed, while slight swelling occurred in but one case. The legs were stiff and did not move with the freedom observed in health. The patients were rapidly relieved by the administration of fruit juices.

36.—See abstract in Journal, June 3, p. 1256.

37.—Ibid.

40. **Etiology of Peritonitis.**—Barber notices among the causes of peritonitis, traumatism, extension of inflammation from adjoining organs, and in the male, especially appendicitis. He concludes as follows: The etiologic and bacterial study of peritonitis shows, then, as a summary—1. It is due to bacteria, but not alone; there must be a primary condition for its culture and growth. 2. The bacterial species can be classified, but not by their clinical or symptomatic character, therefore valueless to the practitioner. 3. The classification according to causes, traumatic, secondary and perforative, defines and describes the method of infection. 4. The peritonitis of puerperal cases and of the traumatic, especially the post-operative, variety, is very liable to become general and prove rapidly fatal. 5. Perforative peritonitis, allowing general diffusion of toxins throughout the peritoneum, is always grave.

41. **Diagnosis of Peritonitis.**—After noticing the pathologic condition of aseptic and septic peritonitis, Carmalt describes the symptoms and general appearance of septic peritonitis, the peculiar facies, the high-pitched, tremulous voice, the drawn up limbs, the distended abdomen, rapid, weak and thready pulse, temperature from 102 to 104 or over, and the marked leucocytosis. The most unreliable sign, in his opinion, is the temperature, and of late years he has begun to place more value on the blood count and to rely on it. Abdominal tenderness is not always present, though generally so. The same may be said of tympanitis. Vomiting, which is nearly always present at some stage, is one of the most distressing symptoms; when having passed through the fecal stage, it becomes dark brown or almost black, it is a symptom of the gravest import.

42. **Treatment of Acute Peritonitis.**—The use of opium formerly so general in this disease is strongly condemned by Russell, as is also that of antipyretics, which mask the symptoms and are liable to mislead the physician. The treatment here described and suggested is operative, and the principal cause of its frequent failure is its too long delay. The details of laparotomy for peritonitis are given at length. The author praises the method suggested by McCosh, of injecting magnesium sulphate directly into the cecum to promote drainage through the intestine, afterward closing the puncture with a Lembert suture. He considers this method essential in severe cases of suppurative peritonitis. The wound drainage is also required and the methods here described, gauze being preferred. Immediately after the operation, the injection of a pint of warm normal salt solution should be made and retained and followed every three hours by two-thirds of a pint in the rectum until shock is completely absent. If the patient is in a state of collapse, intravenous infusion should be resorted to. Strychnin and alcohol are the medical agents that are most efficient. Opium and its preparations should be avoided.

46. **Common Forms of Meningitis.**—At the present time we find in literature some twenty forms of meningitis described, without including "meningismus" or acute cerebral edema or acute and chronic hydrocephalus. Of these Dana excludes acute and chronic external pachymeningitis as merely surgical complications, and purulent pachymeningitis may also be dropped, while serous internal pachymeningitis is a pathologic curiosity. Acute syphilitic meningitis is certainly very rare if it exists, at least using the term in its ordinary sense; posterior basic meningitis is probably a syphilitic or tuberculous disease or a serous meningitis. Serous meningitis has three forms, traumatic, alcoholic, and infectious. The malignant and chronic forms are dubious, thus reducing the total number of forms to eleven, or dropping all temporal distinctions, to nine. In 137 cases treated at Bellevue Hospital, five forms were recognized in ordinary hospital practice and verified by autopsy. The diagnosis or recognition of the different forms is treated at some length and their nomenclature discussed. The serous meningites especially are noticed. The paper concludes with a description of the method of lumbar puncture for diagnostic purposes.

47. **Three Anomalous Cases.**—Wood here describes three cases, all of the same family and the same generation, two brothers and one sister, who suffered from local sensory motor and trophic symptoms in the limbs, which were puzzling as to their diagnosis. He does not think they are cases of neuritis nor of hysteria, as might be suggested in one or two of the cases. He is inclined to believe that there is an organic spinal degeneration, though it is difficult to class all three together by the symptoms.

49. **Anomia.**—The case reported by Hammond is that of a young man who received an injury to his head, causing a subdural hemorrhage over the superior temporal gyrus with a cerebral clot and laceration in its posterior portion. The symptoms were inability to use proper names, without other aphasic phenomena, the word-naming center, which has been in dispute, being apparently alone implicated. Operation and clearing out the clot produced improvement, and at the present time his power of recalling and using proper names is improved.

53.—See abstract in Journal, December 2, p. 1419.

54.—Ibid.

58. **Study of Visceral Anatomy.**—Robinson advocates the foundation of chairs of descriptive anatomy, in medical schools, the course continuing throughout the whole four years. The instructor should be a practical abdominal surgeon, and the first year should be confined to the study of animal viscera. Every senior student should be instructed how to perform experiments, and should do a certain number, afterward making an autopsy. He believes that such a course would lessen the amateur and unnecessary abdominal surgery of the present day, and the slaughter of the genitals which is now so prevalent.

61. **Hypodermoclysis.**—Kane here describes a method of using a branched tube with several needles for hypodermic transfusion of saline solution, thus expediting the operation, which is ordinarily slow and therefore not so advantageous in many cases as it might be. The apparatus with four needles, he claims, can readily introduce from two to four quarts of the fluid into the tissues in half an hour.

64. **Surgery of the Kidneys.**—Fenger's paper is a very thorough description of the diseases of the kidneys amenable to surgical treatment, illustrated by cases. It is too detailed to be abstracted here, and the reader is referred to the original.

66. **Spina Bifida.**—Reid reports a case of spina bifida in a child 1 year old, operated on by aspiration and then dissection and excision of the sac, utilizing the stump to close the opening into the spinal canal and tearing up and loosening the periosteum around it; a plaster-of-Paris jacket was then applied. The operation resulted favorably and a temporary bridge promptly formed, closing the aperture. The tearing of the periosteum reproduced the condition of simple fracture, thus exciting the formation of a provisional and later of a permanent callus. The plaster-of-Paris jacket rendered the spine immovable, a necessary condition for any bony union.

69.—See abstract in Journal, October 14, p. 977; this paper is also printed elsewhere, see title 85.

74.—Ibid, June 3, p. 1256.

78. **Malaria at Camp Mount.**—Dodds describes the experiences with malaria among the returned soldiers from the Cuban War, in Camp Mount at Indianapolis, and reports several cases in detail. He thinks much of the lack of success in these cases was due to undertreatment. Many of the unpleasant sequelæ can be directly traced to this cause. Successful treatment requires rest in bed. Quinin is specific, and while small doses suffice in the acute forms, in the chronic and pernicious stages, large ones are required. He used the hydrochlorate of quinin, which he thinks is the most soluble and has

less disagreeable after-effects. The bowels must be regulated and treatment with iron, strychnin and arsenic is a good adjuvant in the chronic and autumnal forms.

79. **Inguinal Hernia.**—After general remarks on the surgery of inguinal hernia, Morgan describes and illustrates an operation or modification, devised by himself, in which he transplants the neck of the sac under the external oblique muscle some distance from the ring, and secures the cord by a piece of aponeurosis carried across and sutured, thus surrounding the ring with a strong aponeurotic band, sewing up the rest of the opening with blanket sutures. The suspension of the testicles and shortening of the scrotum are also important points in his operation.

81.—See abstract in Journal, October 14, p. 978.

82.—Ibid. p. 976.

84.—Ibid. October 21, p. 1042.

85.—See above, ¶ 69.

86.—See abstract in Journal, October 14, p. 977.

87. **Ethmoid Bone and Nasal Catarrh.**—Sumner calls attention to the importance of the inflammatory processes in the ethmoid sinus, and suggests the prevalent catarrhal condition in New England as the cause of the nasal twang of the Yankee voice.

88. **Antitoxin in Diphtheria.** Five cases are reported by Rand, of the use of antitoxin with striking results, and he believes that if every patient could be thus treated within twenty-four hours of the advent of the disease there would be very few if any deaths.

89. **Hypodermic Syringe in Vaccination.**—Gardiner has used the hypodermic syringe in vaccination with excellent results, introducing it simply under the skin. He thinks it has advantages over the scarification method, of saving time, impossibility of wiping off the virus, and therefore greater certainty of success, diminished pain and satisfactory scar. Its disadvantages are practically *nil* if antisepsis and proper virus are used. The too deep implantation of the virus is to be avoided.

95. **Forcible Correction of Spinal Curvature.**—The operation of rapid correction of spinal curvature by force has been but little tried in this country, according to Greenwell, and he discusses its advantages and disadvantages. He asks what surgical procedure in a disease so serious as this is free from danger, and the location must be considered in view of the possibility of paralysis after operation. Shock is not so much influenced by location, but long duration and high angles may render it a detail of importance. The danger of breaking up and rendering active latent abscesses is a possibility to be considered. The cases most favorable for the method are those in young subjects with the deformity below the middle dorsal region and of so short a duration as to be easily movable. As age increases, both of the patient and the disease, the chances of success decrease inversely to the number of vertebræ involved. After 20, a firm ankylosis should be let alone, unless paraplegia exists. He thinks the operation will stay with surgery, though applicable to a much smaller per cent. of cases than Calot at first thought. As the spine is rendered immovable, the result is in a measure imperfect at best.

97. **Rational Treatment of Smallpox.**—Osborn claims priority of the use of bichlorid sponging in smallpox. This treatment has been described by Bibb as a successful method. (See Journal, December 2, ¶ 44, p. 1412.)

100. **Formalin.**—Although formalin has been stated to be non-irritant, non-toxic and non-corrosive, it is actively irritant and very poisonous and corrosive. Its gas is irrespirable, and its solution needs to be carried to a greater attenuation than corrosive sublimate before it can be applied to living tissue. Van de Warker reports several cases of poisoning by 4 and 5 per cent. or stronger solutions, one of which was fatal, and he thinks that we will before long have reports of more cases of poisoning by this agent. It has great value for surgical purposes, but needs to be used with caution, and he employs it in abscess cavities in solution of only from 1/10 to 1/15 per cent., and then makes sure of good drainage for fear of retention and absorption. A 2 per cent. solution will cause a superficial slough, and a 1 per cent. is quickly destructive to fresh granulation. The slough it causes is very characteristic, is tough and leathery and will cling indefinitely to the underlying surface. He illustrates its value by reporting cases of the destruction of tissue, the vitality of which was dangerous, as in the case of a retained placenta in extrauterine pregnancy and in malignant disease. The results were very good. It works more rapidly than arsenic paste and can be safely applied to the lips. In disinfecting a room with formalin, no apparatus is required other than tin pans placed over alcohol lamps—one or more pans, holding the proportionate quantity for the size of the room, the cracks and openings carefully stopped. If this is not done gas will leak into the halls and other rooms and make them very unpleasant for their occupants.

103.—See abstract above, ¶ 8.

105. **Lithopedion.**—Crain reports a case of apparent retained ovarian pregnancy. The pathologic report of Gradwohl of St. Louis confirms this opinion. The case is of interest as giving evidence of ovarian extrauterine pregnancy.

106. **Physiology.**—Benedict considers contractile tissues and mechanical action of voluntary muscles, also voice and speech, in this instalment of his series of papers on this subject.

109.—This paper appeared elsewhere as an original; see Journal, December 9, title 61, p. 1478.

110. **Fevers in Virginia.**—Beckett describes the fevers existing in southern Virginia, which appear to be chiefly malarial and largely due to the neglected cultivation of the large estates since the Civil War, producing swamps and stagnant water. Autumnal fever seems to be the most common form in this region, and Beckett uses, besides the quinin treatment, giving 5 gr. every four hours, the ice-cap and sponge bath to reduce temperature. In some cases where the fever runs very high, he also uses acetanilid with great advantage, guarding its supposed depressant effect with strychnin and caffein. He has not found this agent dangerous in his experience. The principles of treatment in all these fevers are to fight the excessive temperature and keep up the patient's strength with proper nourishment, keeping the liver also in good order. Typhoid fever is something of a rarity, but he describes several phases of it which have been observed by him. Scarlet fever is also rare and generally mild.

111. **Blisters in Pneumonia.**—The use of blisters in pneumonia is strongly advocated by Ewell, following them with poultices frequently changed. He believes that the principle of treatment is, in pneumonia blister early and often, and if he should lose a patient without having done this, his conscience would tell him he had not done his duty.

114. **Cold Water in Typhoid Fever.**—Killough is a strong advocate of the free use of cold water both externally and internally in typhoid fever. For the bath he uses a large heavy oil or rubber cloth, slipping the patient on it and raising the sides and corners so as to make a bathtub without removing the patient from bed. A sufficient amount of water to cover the patient is poured into this. He calls special attention to this point of covering the body entirely. As a supplement to the bath he gives cold water enemata of from one-half gallon to one gallon two or three times a day, passing the tube above the sigmoid flexure. He also advises the patient to drink from one to two gallons of water every twenty-four hours, flavored if necessary with lemon juice. Too much stress, he thinks, can not be laid on this last point.

117. **Pyelonephritis in Pregnancy.**—The case reported by Reed is one of pyelonephritis terminating gradually after a premature labor. He discusses the condition and its literature and treatment. The outcome is usually favorable in simple cases. Its cause is attributed to pressure on the ureters, which are generally found dilated in pregnancy. The diagnosis is not difficult if the physician is alert, and the disorder is usually self-limited and disappears within two weeks after delivery. The object of treatment should be to relieve pain and combat infection of the urinary and alimentary tracts. For the first morphin is efficient. Vesicants should not be used near the kidneys. The bowels must be kept open and creosote is strongly recommended by Weber. In the case here reported, strychnia was used to support the heart in the latter part of the disease, and intestinal antiseptics were employed, though no marked benefit was observed from either. Some cases will certainly

prove fatal unless the uterus is evacuated, and the judgment of the physician must be exercised as to this. When labor does occur or is induced it should be quickly terminated by instrumental or other measures if necessary.

118. **Phototherapy.**—Hopkins describes an instrument for use in phototherapy after the manner of Finsen, already noticed editorially in the JOURNAL.

119. **Control of Temperature.**—Booth's method was suggested by the observation of a wet bulb thermometer, used in meteorologic observations. He wrapped his patient in wet gauze, supplying the moisture so that the temperature was reduced by evaporation, and claims that it is a promising method in diseases requiring such reduction of temperature.

120. **Saturation Method in Laparotomy.**—In the preparation of the patient for laparotomy, Lewis holds that two principles are of the first importance: 1, the emptying of the intestinal canal as far as possible, and 2, the saturation of the tissues to their physiologic limit. For the former he gives calomel and several mild purgations prior to the operation, with enemas shortly before it. For the latter he gives copious draughts of water, 6 to 8 ounces every two hours for forty-eight hours preceding the operation. After operation, while the patient is still unconscious, a quart of saline solution is given by enema, and as soon as ether vomiting has ceased, hot water is administered in a quantity sufficient to reach the stomach hot. The good results of this treatment are shown by lessened shock, rarity of headache, excessive thirst and wiry pulse, increase of urine of low specific gravity and absence of irritable bladder and post-operative nephritis.

121. **Abdominal Hysterectomy at 79.**—Baldwin reports a successful case of removal of the uterus by laparotomy, for sarcoma in a patient aged 79, which he considers rare enough to be put on record.

122. **Pathology and Treatment of Pneumonia.**—Smith's article offers some new views in regard to the pathology of pneumonia, which he considers as a toxemia due to the introduction of the pneumococcus into the parenchyma of the lungs. Pneumonitis can be produced at will in any of a dozen or a hundred ways, but there is only one way in which we can get pneumonia. With this sharp distinction in mind between pneumonia and inflammation of the lungs, he outlines his mode of treatment, which he thinks is best effected by the introduction of germicides to the affected part by carrying them in the blood. Thus he speaks of calomel and quinin, which, however, do not act directly on the germs but by neutralizing the toxins and controlling the pyrexia. Chloroform is mentioned and the use of creosote, which enters the blood and reaches the lungs, as is shown by its effect on the breath, and Smith rather favors the use of it. The salicylates are also mentioned and favorable testimony quoted. With the two agents, creosotal and the salicylates, he believes the treatment of incipient pneumonia is best met. He is not especially impressed with the value of digitalis, and serum treatment has not yielded sufficient results.

123. **Abdominal Exploration.**—The thorough exploration of the abdomen in all cases of celiotomy is strongly urged by Kelly, who reports an unfortunate case which first led him to this method. He thinks that routine examination should be the rule. The mere inspection by the eye or the hand at the point of incision gives very little idea of all the possible conditions which may be met. There are four steps in this exploration: 1, simple inspection through the incision; 2, examination of such structures as can be brought into sight by the fingers; 3, insertion of the hand as far as the wrist, by which the colon and stomach and pylorus can be grasped and palpated; 4, by the insertion of the forearm in order to reach the liver, gall-bladder, kidneys and spleen. Asepsis must be secured by thoroughly sterilizing the arm or wearing a long-sleeved rubber glove. He details the method of examination. The important lesson he wishes to inculcate is that, provided an incision has been made in the abdominal parieties large enough to admit the entire hand and therefore the forearm, it is always an advantage to the patient to be able to assure him that as far as touch could ascertain there is no disease of any other abdominal organ. Under some circumstances, where there is reason to suspect disease of one of the other viscera not in the proximity of the field of operation, he would make a larger incision than necessary for the performance of the operation, for the very purpose of making such an exploration.

124. **Neurasthenia.**—The condition of neurasthenia and its diagnosis are described by Grey, who considers its prognosis excellent, provided its cause can be removed. The treatment consists of: 1, removal or amelioration of the cause; 2, rest; 3, suitable physical and mental tonics; 4, electricity. The too general popularization of Weir Mitchell's rest cure has been, he thinks, disastrous in many cases, as rest should be proportioned according to the individual needs. The tonics vary according to the condition. If anemia is present, iron should be used and nitrogenized food, especially beef, which can be given in the form of beef tea, if repulsive in the solid form. The best tonic, however, in most non-anemic cases is strychnin, beginning with 1/50 gr. a day and increasing to 1/30. With gouty history, colchicum should be used. Lithemic cases may be troublesome, but lithiated waters should, as a rule, be employed when indigestion and constipation can be excluded as a cause. Diversion and exercise short of fatigue is valuable, but may be overdone, and electricity is especially valuable. No tonic is so effective, he thinks, as the galvanic current properly applied. In conclusion, massage is mentioned as useful in a small minority, but many patients appear to be damaged by it.

125. **Bacteriology of Typhoid Fever.**—The subject discussed by Park in this paper, which was mentioned in our abstract of the proceedings of the New York Medical Association, recently, are: the elimination of the typhoid bacillus through the feces, urine, etc.; the methods of infection by food, drinks, and otherwise; immunization, and the Widal reaction, to which he attributes very great importance.

128. **Micrococcus Intertrigonis Rossbach.**—Meyer describes what he considers a new bacterium, causative of intertrigo. It forms spherical colonies in gelatin, light yellow in color, with fine serrated margin. The gelatin was liquefied, forming first a shallow depression, becoming gradually funnel-shaped, leaving in its concavity the fluid gelatin mixed with the colonies, which give off a rotten cheese odor. Stab cultures acted similarly, but sent out threads penetrating the medium in all directions. On agar the cultures grew only on the surface and accumulated, being slightly yellow in color. In serum the growth was rapid and formed a light yellow membrane. On potatoes a yellowish-brown spot appeared, from which the colonies spread, becoming a lighter color toward the margin. Milk was not coagulated nor acidified, and indol reaction was not observed. The germ is a micrococcus, 0.5 to 0.9 micromillimeters in diameter, without flagellæ or spores. It is aerobic and, in the hanging drop, does not reveal any independent motion. It stains well with watery aniline dyes, and decolorizes with Gram solution. On animals the disease was produced in forty-eight hours, and cultures reproduced the same germs, virulent down to the tenth generation. They are destroyed at 70 C. and below 10 C. A .5 per cent. formaldehyde solution is most effective in killing the germs. Meyer gives the above name in honor of his teacher, Rossbach.

129. **Shortening of Tibia and Femur in Tuberculous Disease of Hip-Joint.**—From an analysis of fifty cases of hip-joint disease, Hibbs finds a shortening of both the tibia and femur in 66 per cent., proportionate to the length of duration of the disease. He thinks that patients with tubercular hip-joint disease very rarely recover with fully developed limbs, and only in cases of short duration ending early in childhood. The average shortening of the tibia in his cases was .7 of an inch, while that of the femur was 1.47, a proportion of 2 to 1. It is obvious that the destruction of tissue plays no part in the shortening of the tibia, and he thinks that this is a less important cause than the indirect ones of non-use, etc. In all cases where the disease has existed any considerable length of time, also the foot of the affected limb is smaller.

130. **Confined Suppuration of Frontal Sinus.**—Kyle reports a case of suppuration of the frontal sinus, not involving the nose, which ruptured spontaneously from necrosis of the outer plate. The only surgical interference was the passing of a probe from the base of the cavity down into the nostril. The trouble disappeared with thorough cleansing with antiseptic solution, and left very little depression and a slight scar. He finds no case in the literature exactly like this.

131. **Tumor of the Nasopharynx.**—Ingals makes a supple-

mentary report on a case previously reported, of tumor of the nasopharynx, which was partially removed but continued to grow until about thirteen or fourteen years ago, when it began to disappear and, after occupying the nose for four years, is now not to be found. The deformity it produced still remains within the nose, and the right eye is blind, the sight having been lost during the growth of the tumor. The case is interesting as showing not only the tendency to recurrence but also to disappearance by atrophy in special instances.

132. **Potentialities of the Physician.**—Millican discusses the possibilities of a medical career, its advantages and disadvantages, the lack of very great financial remuneration and the unfortunate, to say the least, attitude of the public toward the doctor as to payment of bills, etc. On the other hand, the profession has its advantages in that it can yield a support and do good, and the physician can conscientiously feel himself a valuable member of the community if he does his duty. In the second part of his article, he speaks of the function of the physician as a citizen and the importance of the profession to the community. He alludes especially to the influence of the physician in the way of suggestion in controlling public opinion and public measures, his function as a sanitarian and keeper of the public health, and concludes with a brief reference to the qualities of breadth of mind, preparedness, earnestness, sincerity, etc., which are requisites.

133. **Rhinedema.**—Curtis remarks, in beginning his article, that he finds no mention of nasal edema or dropsy in any of the works on the nose and throat, but he finds it in practice and it seems to him to deserve a name as a special form of nasal affection. He thinks many cases of winter hay-fever are of this nature, and describes three types, the anterior, posterior and general erectile irritation. The anterior occurs sometimes, independently of the posterior, and is characterized by intermittent excitation of the erectile tissues of both the inferior and middle turbinates anteriorly, with often a thickening of the tissues of the tubercle of the septum. The posterior condition may also be independent, affecting only the erectile tissues of the posterior turbinate, or, again, a general hyperplasia may be present. Animal emanations may produce this condition, and it may occur at all seasons of the year, in every station of life, being resistant to all known agents, and sometimes making the nostrils impervious for months. The distress is much greater than in ordinary hay-fever. It occurs usually in neurotic women and men of sedentary habits, between the ages of 30 and 50, sometimes earlier. He advises exercise and the use of the rectal sitz douche, for its treatment, washing out the entire colon morning and night with water containing sea salt and sodium bicarbonate. This is one of the best methods of relieving venous stasis in any part of the body, and it has no equal as an adjunct to exercise. These measures, with a little strychnin and digitalis, will soon put the mucosa in a condition to resist monochloracetic acid without danger of a general slough taking place. Early cauterization is dangerous. While not considering it a special disease, he thinks the term here offered is valuable as illustrating the condition.

136. **Malarial Infection as a Factor in Eye Disease.**—Vaughan reports a case in his practice in which the right eye revealed a marked ptosis, conjunctival congestion, pupil dilated, cornea cloudy, vitreous opaque, and slight increase of intraocular tension, the symptoms introducing it being supraorbital neuralgia; the condition was relieved by iron and quinin. He refers also to other symptoms, such as amblyopia, etc., occurring in connection with malaria.

FOREIGN.

British Medical Journal, December 2.

Geography and Climate of South Africa. Alfred Hillier.—South Africa, excepting the coast terraces, is a high inland plateau, ranging from 1000 to 2500 feet in altitude. In this region the summers are hot and the nights usually cool. The rain-fall is largely limited to two or three months of the year. Nevertheless, these regions are capable of supporting a considerable population and being utilized to a large extent for agriculture, as shown by the settlements already made. It would appear that there are many regions there of special value as resorts for invalids.

Lancet, December 2.

Contribution to Study of Epidemic Diarrhea. Arthur Newsholme.—Newsholme discusses the statistics of epidemic diarrhea in a large number of British towns, showing that its greatest mortality is in the hot or summer months, that its causation is not absolutely determined and, if it is a germ disease, the species is as yet hypothetical. It is possible it may be the bacillus enteritidis sporogenes of Klein, but he hopes not, as this possesses a very persistent vitality. We know, however, that it is chiefly a disease of urban life, that it prevails in the lower classes, that it is most frequent in badly sewered and scavengered towns, that the fundamental condition favoring it is an unclean soil. These towns with a high temperature and deficient rain-fall, especially in the third quarter of the year, suffer severely from diarrhea, and this is so much the rule that they can be classified meteorologically. It is also shown that populations living on impervious and rock soils suffer less, possibly because the polluting substance does not cling to or sink into such soil. It is most prevalent where systems of sewage and removal of house refuse are least satisfactory. It is, like enteric fever, a filth disease.

Practitioner (London), December.

Mongolian Imbecility in Infants. G. A. Sutherland.—The type of imbecility called Mongolian, by Langdon Down, is characterized by slow development, a flat face, broad nose, narrow and slightly oblique eyes, and a common feature is the open mouth and protrusion of the tongue. The abdomen is large and distended, the pelvis small, the long bones usually shorter and smaller than normally, the hands short and square, the little fingers and thumbs often small in proportion. An outward bowing of the little finger, due to shortness of the second and lateral displacement of the terminal phalanx, has been pointed out by Telford Smith, as also characteristic. The joints are loose and easily dislocated, and heart disease is common. These children develop slowly. Their condition is often not recognized until their inability to walk or speak at the usual age becomes apparent. Their prospect of life is not good; they succumb readily to the various infantile diseases. In the cranial structure one point is prominent, the skull has a diminished anteroposterior basal diameter, suggesting, as seems to be the fact, a lack of development in the basic structures of the brain. Sutherland has been struck with the prevalence of hereditary syphilis in these cases, it being definitely present in eleven of his twenty-five cases, and suspected in three others. Treatment, except in a general way and symptomatic, is not successful. Thyroids do not seem to be effective in this form.

Temporo-Maxillary Ankylosis and Its Relief by Excision of the Neck and Condyle of the Lower Jaw. David M. Greig.—The author calls attention to the slight notice received by the condition of temporo-maxillary ankylosis in current text-books on surgery, and describes his method of operating in these cases, by excision of the neck and condyle of the jaw. His incision commences above on a level with the upper margin of the orbit, just over the temporal artery, and is carried downward and backward to the zygoma, a finger's breadth in front of the meatus, then down to the level of the anterior attachment of the lobule. It includes the skin and fascia and this flap is reflected downward and forward. The auricular arteries of the superficial temporal are divided, while the temporal artery and upper branch of the temporo-facial division of the seventh nerve are pushed forward with the flap. Sometimes the superficial temporal artery may have to be tied. The masseteric fascia is then freely divided along the margin of the zygoma, and with the parotid is pulled downward and forward. The knife is entered below the zygoma, carried down to the condyle, and a vertical incision made between the fibers of the masseter muscle as low as the lowest level of the sigmoid notch, and the muscular fibers separated by a periosteum elevator. With this as a guide, the chisel is now conveyed down to the bone and lateralized at the lower angle of the incision, the anterior portion being cut at the lowest level of the sigmoid notch. It is important that it be chiseled at its lowest limit first, because it is below the level of the internal maxillary artery, but chiefly because the bone is in a way pyramidal and it is easier to cut through the base after the apex has lost its support. The chisel is then applied at the site of the joint and the base of the pyramid divided. The loosened portion is then driven forward into the wound with forceps, and the internal pterygoid muscle cut loose. If now the ankylosis be unilateral, it will be found quite easy to separate the dental arches, but if this can not be done, the chisel is slipped forward across the sigmoid notch and the coronoid process is divided. There is no bleeding. The wound is stitched up and no drainage is required. He employs a chisel to divide the bone, because it is more easily managed and more accurately regulated.

Relationship of Membranous Inflammation of the Nose to Diphtheria. Eugene S. Yonge.—The conclusions of Yonge's article on membranous rhinitis are: 1. Membranous rhinitis—this term being understood not to include primary nasal diphtheria—is commoner than is usually supposed, cases being overlooked owing to the mild constitutional symptoms, or regarded as catarrhal rhinitis, etc. 2. The disease may occur in one of two forms, which concur in the local appearances, the prolonged course and the mildness or absence of constitutional symptoms, but differ in the presence or absence of the Klebs-Löffler bacillus and in their power of infection. 3. The form associated with the Klebs-Löffler bacillus is considerably more common than the simple form, and is a mild local manifestation of diphtheria, differing sharply, however, from the usual form of primary nasal diphtheria. 4. Inasmuch as the two forms of membranous rhinitis are clinically indistinguishable, a bacteriologic examination should be practiced in every case, and isolation of the patient carried out, at least until the result of the examination is made known.

Annales de Dermatologie et de Sphilographie (Paris), October.

Necrotic Acne. R. Sabouraud.—"The longer the bacteriologist studies the skin, the more he is impressed with its impermeability for microbes. Wounds, traumatisms, simple erosions, infect the subcutaneous regions a thousand fold more easily than the skin itself. The derma defends itself better than the subderma, but infection once established in the derma or epidermis, it is almost indestructible. All intra and epidermic affections are recurrent. Another fact to be borne in mind is that treatment should not be addressed to the lesion but to the region." Sabouraud establishes that necrotic acne is a perifolliculitis extending outward and downward, terminating by the necrosis of all the tissues invaded and by a varioloid cicatrix. It starts in a follicle previously infected with the microbacillus of seborrhea oleosa; this seborrhea is its constant and indispensable substratum, and no treatment is permanently effective unless addressed chiefly to the seborrhea. It is produced by a staphylococcus aureus, found pure, constant and innumerable in the lesion from first to last. It has been found impossible to differentiate this staphylococcus from the ordinary staphylococcus aureus. This fact, considered in connection with observation of the various clinical varieties of necrotic acne, includes it in a group with Bockhart's peripilar impetigo, the pilar impetigo of the adult and true necrotic acne: first, free suppuration—Bockhart's impetigo—continuing with slight necrosis to a cicatricial termination—pilar impetigo of the adult—and lastly necrosis extending to the deep follicular cicatrix—necrotic acne.

Archives Orientales de Medicine et de Chirurgie (Paris), November.

Sclerogenic Method in Tuberculosis of Larynx. A. Castex.—Injections of a 5 per cent. aqueous solution of chlorid of zinc according to Lannelongue's method, directly into the larynx, have been practiced by Castex in eight cases. Two remained stationary; two are practically cured and the rest have since succumbed to extension of the pulmonary lesions without aggravation of the laryngeal lesion. There is pain at first *in situ*, then in the ear of the corresponding side, and tumefaction follows at the point of the injections. Five or six days afterward a gray eschar forms and falls, and induration follows with ankylosis of the arytenoids and immobilization of the vocal cords. This treatment is harmless, according to the writer's experience, and may be successful. It seems to be indicated when the lungs are in fairly good condition—first period— and the laryngeal lesion consists of a circumscribed lesion. On an average he injects 15 drops in the arytenoids or cords, according to the lesions, repeating the injection in a fortnight. One of his cured patients was injected three times.

Bulletin de l'Academie de Medecine (Paris), November 21.

Prophylaxis of Syphilis by Medical Treatment. A. Fournier.—Elaborating more fully his scheme of numerous centers of treatment for out-patients scattered through the city (see Journal, p. 1545), Fournier advocates individual medical examination, the patient alone with the physician and his students, with a number of small dressing-rooms to which he could retire, and a system of individual cards, on which are briefly noted the anamnesis, symptoms, lesions, treatment, etc., which would save much time. He also would have a few brief instructions printed on the back of the prescriptions or in a circular given the patients, recapitulating the advice given by the physician. He urges the necessity of a special force of "venereologs" for this service, a titular hospital physician in charge, with consulting assistant chosen by competition for six years from the *chefs de clinique*, who would also be appointed by competition for three years. The entire force would thus be experts with years of training, and with no other official duties. All in this new organization would converge to the one point, the prophylaxis of syphilis, and prophylaxis by medical means, working in concert with prophylaxis by all other possible means, moral and otherwise.

Echo Medicale du Nord (Lille), November 19.

Postpartum Fever and Constipation. Oui, Carrière and Ingelrans.—The first writer describes four observations of fever appearing from the second to the fifteenth day consecutive to delivery, which were treated for the coincident constipation with prompt effect in banishing the fever. Others have also called attention to constipation as the cause of postpartum fever in many cases, but Moty attributes the fever to intestinal paresis, and Ingelrans quotes Delorme's series of 160 cases of men constipated for twelve to fifteen days after abdominal or genital operations, without a trace of hyperthermia, subnormal in many, and ascribes postpartum fever to the unstable nervous conditions of women after childbirth, which multiplies the effect of the slightest pathogenic cause; even an emotion may be sufficient to induce fever at such times. He doubts whether constipation can be incriminated, and observes that there can be no absorption from hard fecal matters. Carrière reports that when the anus is obliterated in rabbits, the fecal matters increase materially in toxicity, which is also demonstrated in man by the frequent presence of indican in the urine of constipated persons. He also induced fever in rabbits with obliterated anus, by injecting cultures of toxins of the coli bacillus into the intestines, while similar injections in the control animals failed to induce any fever. His experience suggests the advisability of ensuring intestinal antisepsis in women as a precaution before childbirth.

Progres Medical (Paris), November 18.

Indications for Opening Wide the Cavities of the Middle Ear in Chronic Suppurations. Baratoux.—Persistent, distinct subjective symptoms indicate opening the cavities of the middle ear wide, also a fistula, facial paralysis, dropping of the upper wall of the canal, fungous growths in the dura mater and local tuberculosis. In all other cases, cholesteatomata, vegetations, polypi and perforations resisting the usual measures longer than several months, the ossicles should first be removed, with excision of the external wall of the attic if necessary, and scraping the tympanum. If there is recurrence of the tumor or persistence of the discharge, the lesion of the bone can not be adequately reached by the canal, and all the cavities of the middle ear must be opened up to reach the starting-point of the infection.

Revista de Medicina y Cirurgia (Havana), November 10.

Will it Be Possible to Suppress Yellow Fever in Cuba? D. T. Laine.—"The occurrence of yellow fever at Santiago is discouraging after all the radical measures to render the city sanitary, and suggests that possibly such efforts may prove fruitless and that the subsidence of epidemics may merely be due to isolation preventing its spread, and to a truce in the virulence of the germ rather than to its extermination. The epidemic at Santiago rapidly died out, but the cleaning of the city had little to do with it, but rather the lack of non-immunes for fuel. If sporadic cases continue appearing, the hopes based on the present favorable statistics would crumble, and a single intensely virulent case might nullify all efforts. The apparent facility with which we now arrest epidemics and the hope of the final extinction of yellow fever will diminish in proportion to the increase in the number of non immunes in the population and the approach of the time when the government will pass into the hands of the natives who are not so directly interested in the matter as the Americans. Before the present government took control of the island there had never been the slightest attempts made in the hospitals, civilian or military, to isolate cases of yellow fever. Separate pavilions had been provided in some cases, but friends and relatives were allowed free access and the hospitals thus became actual centers of contagion."

Revue Hebd. de Laryngologie, etc. (Bordeaux), October 28.

Early Manifestations of Tuberculosis of Larynx. Monsarrat.—Before this affection has reached an unmistakable stage, it can be detected by the characteristic cough, voice or pains. The larynx should be suspected when with auscultation almost completely negative there is a persistent cough, sometimes violent, spasmodic like whooping cough, or small, dry, staccato, with or without expectoration or vomiting. The voice may be affected, with few if any changes discoverable in the larynx, no ulcerations, the cords scarcely congested, no cough, nothing to explain the great change in the speaking voice. It may even resemble the eunuch voice. Hoarseness is noted in a fifth of the cases of tuberculosis of the larynx. A nodule, a congestion, a monochorditis may be the first intimation of it. Congestion of the vocal cords may coincide with dsyphonia or cough, but it disappears with repose unless due to chronic rhinopharyngitis or tuberculosis. In the latter case it persists and involves the surrounding tissues with exacerbations, the grave form of recurring tuberculous laryngitis. Acute monochorditis should always suggest tuberculosis. The tuberculous nodule on a vocal cord is less conical and rounder than "singer's nodule." It causes little inconvenience, but is replaced by the tuberculous ulceration. More usual manifestations are congestion of the entire larynx, edema of the endolaryngeal mucosa and the sensation of a lump in the throat, which is sometimes the first and, for a long time, the only symptom in nervous subjects, especially females, before any lesions can be discovered. Disphagia may also occur as the only symptom.

Treatment of Malignant Tumors of Nasal Fossae. E. J. Moure.—Notwithstanding the size of some malignant tumors of the nasal fossæ and the hemorrhages which they are liable to induce, Moure strongly advocates operating on all, even those of the upper, inner fossæ, by the natural routes and not from the exterior. The operation is simple, easy of execution, free from danger, and it can be repeated as often as may be necessary without disturbing the general health of the subject. Much better than the external route, it allows the complete removal of the degenerated portion with oversight and suppression of the point of insertion, or at least curetting or cauterization. It protects against hemorrhages and allows careful watch over recurrences and prompt intervention if they occur. Enlarging the cavities of the nose much facilitates operative maneuvers and exploration of the interior of the nose.

Semaine Medicale (Paris), November 29.

Etiology of Tertiarism. A. Fournier.—Fournier considers and proves inadequate treatment to be the chief factor in the etiology of tertiarism. "One must do as I have done," he says, "that is, ransack the observations of several thousand cases of tertiary syphilis one by one, to obtain any conception of the indifference of subjects to their disease, their negligence, their carelessness in respect to it. Who would believe that out of 2400 syphilitics I found 500, that is, more than a fifth, who considered themselves emancipated from the disease by a course of treatment less than three months in length, two months, six weeks, one month? Who would believe that out of this 500 there are 121 who, by their own confession, received treatment less than four weeks, three weeks, ten days, seven, five or three days?" He also asserts that tertiary syphilis most frequently follows mild or moderate secondary syphilis. Out of 2188 cases of tertiary syphilis, 1990 had been preceded by a slight, very slight or absolutely mute secondary period. On the other hand, the proportion of tertiary accidents with adequate mercurial treatment is only 3 per cent. Among the lesser causes are nervous heredity, age, alcoholism and malarial infection and all depressing influences, speculation and gambling, dissipation, but insufficient treatment is far ahead of all the rest.

Centralblatt f. Chirurgie (Leipsic), October 28 and November 25.

Osteoplastic Evacuation of Mastoid Process. Kuester.—Evacuation of a cholesteatoma or other serious lesion of the mastoid process usually leaves a disfiguring depression and the scar may be months in healing. All this is avoided by Kuester's method, which he has applied on nine patients with most gratifying results. The ear is pulled forward, and an incision carried along its base from above downward and around the base of the mastoid process and up, parallel to the first incision along the base of the ear, to a point opposite the starting-point of the incision. The periosteum is then detached along the incision and a groove cut in the bone. The entire surface of the mastoid process is then pried up, forming a thin bone plate still intimately connected with the soft parts over it. This tongue-shaped skin-periosteum-bone flap is then turned back and the operation continued as indicated. The cavity left is loosely packed with gauze, a corner cut out of the flap to allow the tip of the gauze to protrude; the flap then replaced and sutured. The tampon is replaced by a smaller one, in four to five days. The skin wound heals by first intention and the small fistula left soon heals. The cavity fills up effectively with granulations in a few weeks, and except for the slight linear scar, no trace remains of the intervention. This method is especially advantageous if the sinus or dura mater has been injured, on account of the firm antiseptic tamponning ensured by the replaced bone flap.

Radical Operation for Inguinal Hernia in Infants. A. Fraenkel.—Among the arguments adduced by Fraenkel, in favor of early intervention, are the unavoidable irritation from soiling of bandages and truss by urine and fecal matters, and the lack of free natural play and exercise in children compelled to wear a truss, with consequent defective development of body and psyche. He has done the Bassini on sixteen nurslings out of a total of sixty-eight children; four were incarcerated. In two the ectopic appendix was found in the hernia and removed with it, an important prophylactic measure. The infants all bore the operation exceptionally well. It is generally conceded now that although a congenital hernia may spontaneously regress, yet the tendency to hernia persists and is more than liable to cause trouble later, and on account of the interference with the general health, the hernia should be operated on as early as possible, the same as hare-lip is now considered to demand prompt intervention. His youngest subject was 2 months old. The only precautions necessary are to partially cure intestional catarrh if present, before operating. It is not necessary to wait for entire recovery as the operation always completed the cure in Fraenkel's experience. In nearly every case the wound healed under one immobilizing bandage, on an average in eight to nine days; penis and anus walled off with waterproof tissue.

Deutsche Medicinische Wochenschrift (Leipsic), November 30.

Experimental Study of Thyroid Gland. J. Katzenstein.—The results of five years of research are embodied in this article. They show that the thyroid gland degenerates after the innervation has been severed, and that the animal may survive this degeneration and consequent extinction of the function of the gland without injury. In some of the tests the gland was removed on one side, and on the other was detached from its surroundings, but still left adherent and wrapped in tin-foil or fish bladder. While still connected by nerves and vessels, it lay in the bladder as in a bag, sewed to the skin nearly all around. In other tests the tin-foil was covered with gauze. The gland was removed later, the vessels severed at least 1.5 cm. above and below. Four out of seven permanently survived the removal of the entire gland. After removal of the thyroid gland the secretory and vasomotor nerves as well as the sensory, undergo centripetal degeneration. Neumann's osmium method showed, in teased preparations of the degenerating nerve-fibers, that the portions near Ranvier's nodes remained unstained, the very points where the stain is the strongest in normal preparations, probably evidence that the degeneration of normal nerve-fibers commences at Ranvier's nodes. The length of a nerve-cell, that is, the distance from one Ranvier's node to the next, has hitherto been estimated at 1 to 1.5 mm., but in these dog nerves the distance was 0.059 or 0.5520. Accumulations of ganglion cells were noted at various points in the vagus, and once in the recurrens. When first the innervating nerves of the thyroid are cut, an abnormal and enormous secretion of colloid occurs in the follicles of the gland, too much to be carried away in the circulation. This accumulation irritates the epithelial cells of the follicles, to which they respond by the production of more colloid until the pressure of this accumulation squeezes the vitality out of the epithelial cells and they die, when all function ceases in the gland, but without injury to the animal, who lives on undisturbed with the gland as a dead body in his organism. No evidences of any substituting organ could be discovered. Investigation of the hypophysis from large numbers of dogs and monkeys, after complete extirpation of the thyroid, failed to disclose any change in the substance of the hypophysis, and Katzenstein never found any hypertrophy of the pituitary body in these circumstances. An increased secretion was occasionally noted in the glandular portion, but there seems to be no analogy between this secretion and thyroid colloid.

Virchow's Archiv (Berlin), clv 1.

Elimination of Elements of Urine in Course of Fever. W. Moraczewski.—Analysis of the metabolism in cases of fever—typhus, croup, pneumonia, malaria, phthisis—showed that the first rise in temperature was followed by increased elimination of Cl., increased or decreased amount of N., decrease of P. With continuous, unchanging fever the elimination of Cl. and P. gradually diminish; the N. remains stationary or diminishes. In the third stage of continuous fever the Cl. falls below normal; N. and P. increase to above normal, that is, typical fever urine. A drop in the temperature may even intensify the characteristic fever excretion. A rise increases the amount of Cl. and diminishes the P. With permanent return of temperature to normal the retention of Cl. gradually diminishes and P. and N. gradually return to normal.

Wiener Klinische Rundschau, November 9 to 23.

Stab Wound of the Heart. R. v. Baracz.—The instructive points in this observation are that a large artery—in this case probably the intercostal—may be injured, while no spurting of blood from it can be detected on the closest inspection; also that two weeks afterward, notwithstanding the thrombus and partial absorption of the extravasation, a profuse after-hemorrhage may occur in consequence of increased heart action, which imposes the necessity of absolute rest in bed. Another point is that symptoms of injury of the pericardium may not become manifest until several days after the wound. The blood in the pleural cavity probably presses against and closes the hole in the pericardium at first. As this subsides the blood and air driven back and forth through the hole produced, in this case, commencing three days after the injury and vanishing in twenty-four hours, the rare "water wheel" sound described by Morel-Lavallee as pathognomonic of a wound in the pericardium, but only observed in three cases on record.

Operative Treatment of Tuberculous Pneumothorax. Drasche.—The writer states that he began collecting material for this study forty years ago, and has continued it ever since, in the Allgemeines Krankenhaus at Vienna. He says: "If surgeons will turn their attention more to tuberculous pneumothorax henceforth and seek to perfect the technic, and internes study it more closely and collect experiences, my aim will have been accomplished. Even if complete recovery does not follow, the great relief and alleviation of the patients should encourage the practice of intervention in such cases, and the mere fact of the operation will cure many in the early stages of tuberculosis."

Russky Archiv Patologii, Klin. Med., e Bact. vii, 5 and 6, viii, 1 and 2.

Tuberculosis of Hernial Sac. M. Fresnitzki.—Reviewing the twenty-six cases in literature, and a typical personal one, the author is convinced that the sac may be the primary localization of the tuberculosis, or merely secondary to general peritonitis. Both possibilities can be accepted. The tuberculous hernial sac almost always contains fluid, and the walls thicken, both very important points for the diagnosis, and imposing immediate operation.

Changes in Central Nervous System with Lead Poisoning. T. Rybakow.—In experimental research with rabbits and guinea-pigs injected subcutaneously with lead acetate or fed with lead carbonate, mixed with the food, for five to sixty days, the paralysis appeared two to fifteen days before the death of the animal, first the hind feet, the extensors being most affected. The most marked changes were noted in the spinal cord, in the lumbar region, especially in the cells of the anterior horns. Rybakow considers this the primary effect of the lead poisoning, these cells reacting most readily to the influence of the poison.

Prophylaxis of Diphtheria. G. Gabritschewski.—The writer advocates bacteriologic investigation of all persons in contact with a diphtheria patient as well as of the patient himself, and if bacteria are found, the subjects should be isolated and disinfected as if they were already sick. No diphtheria patient should be dismissed until the bacteria have entirely vanished. In establishments, boarding schools and families where there are many children, the mouth, throat and nose should be thoroughly examined once a year at least, preferably in the early fall. Disinfection should follow the complete recovery of a diphtheria patient. A sanitary bacteriologic service should be organized in every country district.

Pathologic Anatomy and Bacteriology of "Dog Plague." J. N. Petro-Pavlovski.—Bacilli were found by the author, in dogs affected with this disease, in the lungs, liver, spleen, pustules on the skin, submaxillary and mesenteric glands, brain and spinal cord, which resembled the bacillus of the bubonic plague. Cultures of these bacteria, introduced under the skin or into the abdominal cavity of young dogs, induced the symptoms of the plague with suppuration at the point of injection. The blood serum of dogs recovered from the disease, agglutinated cultures of the same bacilli. Cultures introduced into the abdominal cavity or under the skin of gray or white mice or guinea-pigs, the animals have septicemia, and if they recover, their serum has also an agglutinating property. Other animals infected react with catarrhal inflammatory foci in the lungs, and occasionally abscesses and nodules of a granulomatous character. The lungs and liver are first affected and later the spleen, lymph-glands, peritoneum, kidneys and central nervous system. On the whole, the "dog plague" bears a close resemblance to bubonic plague in man.

Behavior and Practical Importance of Benzoic and Calcium Peroxid in Intestines of Man and Dog. N. Nencki.—It has long been established that fermentative processes in the intestinal tract occur without oxygen, the microbes being facultative or strict anaerobics. Nencki has been experimenting to find what influence the presence of oxygen would have on these processes, first with benzoic peroxid and then, more successfully, with calcium peroxid. Dogs took large doses of the latter without inconvenience—6.0 to 10.0. The gastric juice liberates free oxygen and the pancreatic juice and bile are even more energetic in this respect. A series of tests with dogs demonstrated that the fermentations in the intestinal tract, after ingestion of large amounts of calcium peroxid, were partially or entirely arrested, evidenced by the diminished sulphates in the urine and the entire disappearance of indican. These results encourage the use of calcium peroxid in abnormal fermentation processes, and Roczkowski has already applied it with success in a number of affections of the alimentary canal. It seems to be particularly effective in the so-called acid dyspepsia of children.

Gonorrheal Disease of Nervous System. M. Moltschanow.—Long research with the gonococcus toxin on rabbits, guinea-pigs and white mice, leads Moltschanow to affirm that this toxin causes certain characteristic changes in the nervous system, particularly evident in the cells of the anterior horns of the spinal cord in cases of acute intoxication, as partial and general chromatolysis, changes in the shape and position of the nucleus, vacuolization, atrophy of the cells and substitution by neuroglia. Similar changes also appear, but much later, in the cells of the spinal ganglia. The cells of the cortex, large ganglia and cranial nerves are much less affected. Vasomotor disturbances are also observed as hyperemia of the meninges and gray matter of the spinal cord, with occasionally hemorrhages in the vicinity of the central canal. The intensity of these changes is always proportionate to the amount of the toxin introduced. By the third or fourth week after infection symptoms of degenerative neuritis appear, and by the second month assume the predominance. By this time also, lesions of degeneration develop in the posterior roots and posterior columns of the spinal cord. Experiments with mixed infection—staphylo and streptococcus, colon bacillus—showed that the above changes occurred much more rapidly with combined intoxication.

Biology of Bacterium of Acute Rheumatism. J. Ssawtschenko.—Achalme's bacillus was cultivated by the writer of this communication, from various specimens of soil from Kasan and vicinity. He considers it the agent of acute rheumatism. The conditions for obtaining pure cultures from soil are first, heating to 60 or 80 C., to destroy foreign vegetation and then developing the cultures as strict anaerobics. As other anaerobic bacilli develop with them, they may be isolated by inoculating susceptible animals—pigeons. Assuming this usually harmless saprophyte to be the cause of acute rheumatism, it must attain the necessary virulence by its passage through the alimentary canal which affords all the conditions required to enhance its virulence, and autoinfection follows thence.

Societies.

COMING MEETINGS.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.

Butler County Medical Society.—At the recent session of this Society the following officers were elected: president, G. A. Hermann; vice-president, J. H. Roll; secretary, A. Smedley; treasurer, F. M. Fitton.

Practitioners' Society of Dallas, Texas.—The above named Society was organized and the following officers elected, December 1: president, Lawrence Ashton; vice-president, J. B. Titterington; secretary, C. L. Johnson. The next meeting will be held December 18.

Marion County Medical Society.—This Society held its annual meeting December 5, at Indianapolis, Ind. Dr. C. B. Burr, Flint, Mich., presented a paper on "Care of Recent Cases of Insanity," which was discussed by specialists from different parts of the state.

Grand River Medical Society.—This Society met at Laclede, Mo., December 7 and 8. The newly-elected officers are: president, G. N. Lantz, Brookfield; vice-presidents, G. W. Goins of Breckenridge and J. W. Lane of Linneus; treasurer, Dr. Burke, Laclede; secretary, J. A. Craig, Shelby.

Rock County Medical Society.—At Janesville, Wis., December 1, members of this Society held a business session and elected the following officers: president, W. H. Judd; vice-president, S. B. Buckmaster; secretary, George W. Fifield; treasurer, R. W. Edden.

Southern California Medical Society.—The twenty-fourth semi-annual meeting of this Society was held at Pasadena, December 7 and 8. One morning was devoted to nervous and mental diseases, an afternoon to surgery, and an evening to ophthalmology, otology, etc. The physicians of Pasadena tendered a trip up Mt. Lowe, to the visitors.

Minnesota Valley Medical Society.—At the meeting held in Mankato, December 5, especial attention was given to the question of quackery as affecting the medical profession. The following officers were elected: president, J. H. Adair, Owatonna; first vice-president, D. J. S. Holbrook, Mankato; second vice-president, M. Sullivan, Luverne; third vice-president, Marie Merrill, Mankato; secretary, E. D. Steel, Mankato: treasurer, G. F. Merritt, St. Peter.

Orleans Parish Medical Society.—At the meeting December 9, held in New Orleans, La., officers were elected for 1900 as follows: president, T. S. Dabney; vice-presidents, M. J. Magruder, Hermann B. Gessner, and E. J. Craner; recording secretary, E. H. Walet; treasurer, M. H. McGuire; corresponding secretary and librarian, S. P. Delaup. Drs. John Callan, Isadore Dyer and E. Denegre Martin were elected as the three directors who, with the officers above mentioned, make up the board provided for by the recently passed act of incorporation.

Salt Lake County Medical Society.—At the meeting of this Society, in Salt Lake City, Utah, December 11, the evening's discussion was devoted to a resolution offered by Dr. P. E. Jones, endorsing the action of the Wayne County (Mich.) Medical Society in its efforts to secure reciprocity between states having similar medical laws. (See Journal, November 11, p. 1226.) The purpose of the reciprocity idea is to have a uniform law in all the states regulating medical examinations, and to this end it is intended to recognize without question the legitimate certificates of qualified practitioners. The resolution was adopted by a vote of 19 to 1. Officers were elected as follows: president, E. F. Root; vice-president, Ira A. E. Lyons; secretary, W. S. Ellerbeck; treasurer, A. A. Kerr.

Calhoun County Medical Association.—The annual session of this Association was held in Battle Creek, Mich., early in the month. The following officers were elected: president, G. D. Bangham, Homer; first vice-president, L. M. Gillette, Battle Creek; second vice-president, L. S. Joy, Marshall; secretary, W. H. Haughey, Battle Creek; treasurer, Dr. Olin, Battle Creek. Dr. George C. Hafford, of Albion, offered a resolution censuring the Board of Regents of the University of Michigan, for compelling the staff of the University to perform, free of charge, operations on patients whose cases do not help educate the students and who are able to pay for the attendance. This was unanimously carried. The next meeting will be held at Albion, March 6, 1900.

Southern Medical College Association.—This Association met in annual session in New Orleans, La., December 5. Eight of the eleven colleges constituting the membership were represented. Dr. G. A. Ketchum of the Medical College of Alabama presided. Tulane University was represented by Dr. E. S. Lewis; Virginia Medical College by Dr. Christopher Tompkins; Medical Department of the University of the South by Dr. J. S. Cain; Birmingham Medical College by Dr. J. D. S. Davis; Medical Department of the University of Tennessee, by Dr. W. D. Haggard, Jr.; Memphis Hospital Medical College by Dr. W. B. Rogers; Medical Department of Vanderbilt University, by Dr. G. C. Savage, secretary of the Association. The colleges not represented were the Medical Department of the University of Nashville, Tennessee Medical College, Knoxville, and the Medical Department of Fort Worth University. The meeting was harmonious. The delegates all reported that their respective faculties were well pleased with the advance made from the three to the four year course. The constitution and by-laws had been so perfected from time to time as to need but little amendment. However, a very important amendment to the constitution was adopted to the effect that the colleges, members of this Association, shall hereafter adhere strictly to the published rates of tuition. Each college, however, is allowed to fix its own charges for tuition. It is to be hoped that the example thus set by the colleges constituting the Southern Medical College Association will be followed by colleges throughout the country, and that the very degrading practice of cutting rates will cease. The officers elected for the succeeding year are Dr. G. A. Ketchum, president; Dr. Christopher Tompkins, vice-president; Dr. G. C. Savage, secretary. The executive committee is composed of the following members: Dr. G. A. Ketchum, Dr. E. S. Lewis and Dr. Christopher Tompkins. The next annual meeting will be held in connection with the meeting of the Southern Surgical and Gynecological Association, in Atlanta, Ga., in November, 1900.

New Jersey Sanitary Association.

Twenty-fifth Annual Meeting, held at Atlantic City, Dec. 8, 1899.

HOW SHALL BOARDS OF HEALTH PREVENT THE SPREAD OF COMMUNICABLE DISEASES?

Dr. Daniel Strock, Camden, N. J., chose this subject for his annual address, as president. There is a great want of unanimity among the local boards on this matter. They act under general not specific laws. They can pass an ordinance for this purpose, but rarely do we find them in accord as to the proper action. One city has its medical inspectors report all cases of contagious disease to the superintendent of education, so that the children of such families may be kept from the schools. Another has house-to-house inspection, and infected houses are fumigated, etc. Another quarantines such houses, isolates them, affixes placards, and finally disinfects. In one city such a case is at once removed to a hospital. Again, we find the physicians required to report all cases of suspected sore throats, that they may be examined bacteriologically, and thus the spread of disease prevented, while one city has a smallpox hospital, but none for other communicable diseases. Four cities have isolation hospitals where cases can not be treated at home. One strictly quarantines, with an officer in front of the house to prevent egress or ingress. The experience of this city has not been reported. In some districts no records are kept because all diseases are regarded as a visitation from Providence and no interference should be tolerated as flying in the face of the Almighty. Probably the majority have a sanitary code, but it is not always enforced.

Often the members of boards are conscientious men, but they are deterred from enforcing the law by public opinion. Perhaps this is the chief reason why in many instances sanitary laws are not enforced. If such diseases are ever to be controlled, it must be by uniform methods in dealing with the problem involved. Public sentiment must be aroused, and all will then uncomplainingly submit to laws which at times are apparently unfeelingly ordered. It should be brought to the notice of the public that in one epidemic the work goes on insidiously till hundreds are destroyed. Mortality statistics are impressive and greatly aid in the education of the people. Hence such should be put before them. Such diseases as cholera, plague, yellow fever, and smallpox are feared and the people gladly submit to every inconvenience to prevent their admission. Two diseases are always with us, scarlet fever and diphtheria, which cause thousands of deaths. The people become indifferent to them, and this point can not be made too emphatic when dealing with the public.

We must carefully observe the sanitary condition of a district, inspect the school houses, examine each child and exclude all who come from a house where such sickness is present. Public funerals must be prevented. Educate the people, show them why we do these things. In every case of suspicious throat, examine specimens of the sputa and then determine as to quarantine, etc. Every district should have its detention hospital for communicable diseases and here the family physician should be permitted to attend his own cases, as many consider their own doctor the best. Quarantine destroys business, as in the case of a shop keeper; it prevents the father from working, thus cutting off the supply of the food earner. Hence all will readily see the advantage of having such cases in a hospital where they are sure to be well cared for without this additional hardship to the afflicted family. Then few would object to what they see is done for their own welfare. The epidemics of smallpox and yellow fever have in the past left their marks so indelibly fixed on the people that in remembering the past they consider the traditional horrors whenever they are brought into view. This insures alarm lest they again occur. If the people would accept the teaching as to the other diseases, and learn that like means will curtail all communicable diseases, they would as readily submit to the rigid quarantine of the ports against all as they now do for yellow fever, plague, etc. This educational system would on the whole work less unpleasantly and prove more successful at an early day. The people would then aid rather than oppose the health boards.

DUST, SMOKE AND GAS IN CITIES.

PROF. W. L. SEDGWICK, Boston, spoke on this subject. He alluded to dirt as black dirt, farmers' dirt, street dirt. Turning up the roads and fields exposes a dirt containing the germs of typhoid fever, etc. Railroad cuts produce the same. Farmers' dirt contains much animal life, which is useful for the purposes of cultivation. Street dirt is poisonous in every way. The wear of the wagons constantly keeps this on the increase, and it is kept finely pulverized, and is carried by the air into the lungs of the people, not only thus but also by the additional work of the street cleaner. It should be made a penal offense for any work like street cleaning to be done without plentiful sprinkling to enable this dirt to be kept from polluting the air. Everywhere we see the broom in motion stirring up the dirt in clouds to be inhaled by every passer. Disease can not be prevented while we continue to do what we can to keep the germs which so profusely fill the street dirt exposed dry to the lungs and all parts of the system.

Water gas is deadly in every way, it is ten times more dangerous than coal gas. In Massachusetts it has been, until recently, against the law to use it. Coal gas is much better as an illuminant; 16 candle power of this gives more light than 24 candle power of water gas.

SANITARY SUPERVISION OF THE MILK-SUPPLY.

M. O. LEIGHTON, Montclair, N. J., presented an illustrated paper on this subject. It compared the dirty cow stable and the clean one; the dirty milking, the old plan of carelessly straining the milk, etc., and the proper clean method, by which all opportunity for poisoning of the milk is prevented.

A musicale and smoker was given at one of the hotels, to the delegates, by the committee of arrangements of Atlantic City, in which we were assured that the citizens gladly joined in order to show their appreciation of the work done by the sanitarians, and perhaps to prepare the public for the grand reception of the AMERICAN MEDICAL ASSOCIATION next June. This was especially mentioned to your reporter by the members, who wish the medical world to present itself in a mass on that occasion to learn the great value of this sanitary resort by the sea shore.

BACTERIOLOGIC TREATMENT OF SEWAGE.

JAMES OWEN, C.E., in presenting this topic, said that this has been for the last fifty years very complicated and difficult of solution. Water carrying causes much of the trouble. We need to return the water to its channel free of pollution; also, it is necessary to consider the amount of water used. When the place to be cared for is on tidal water it is safe to say that no change is needed, as we may carry the sewage into this and it is carried away where it can do no harm. Half the people are dependent on the problem of sewage treatment. It is always wrong to run crude sewage into water that may later be employed for drinking. Chemical or mechanical treatment generally costs too much and often fails. It has been noted that running streams have a tendency to self-purification. We can estimate the amount of sewage that can be dealt with in a running stream. Still it is often doubtful, especially if the waters are to be used for drinking. Consequently another step became necessary; the primary treatment of the sewage before it is passed into the river. In sewage dissolved oxygen is generally absent, hence we must collect the sewage in a tank where the bacteria can work without light or air, and then it is ready for discharge. Straining is but an incident. It is essential that certain bacteria be present for nitrification.

Experiments have been tried near London and at the same time in Champaign, Ill. The plan is known as the return to Nature's own methods. It has proved so successful that we may hope the problem is solved, or at least nearly so. One experiment showed the reduction of the bacteria to 95 per cent. One million gallons per acre per day can be treated at the plant near London. Other experiments, as in Massachusetts, showed a like success. What is called the septic tank receives the sewage. This is air-tight, is not screened, and the contents attacked by the liquefying bacteria and thus broken up; thence it flows over coke filters which act intermittently; 55,000 gallons a day are treated. Samples showed the oxidizable organic matters reduced to a remarkable degree; the filtrates are fairly bright and clear and fit to discharge into a river. These, when kept for some time, showed no sign of putrefaction or decomposition. While there was considerable evolution of gas, it was non-sulphuretted hydrogen and with no odor. It is clearly demonstrated that this process is adapted from a chemical and biologic point of view. Such a system was constructed for Overbrook, N. J., with four filter beds. After it was completed, no one was needed to care for it save one man for a few moments each morning, to scrape away the rags, etc. from the top of the screen. At first sand filters were employed, but subsequently coke, as slower and better. The result was a pure, clear, limpid flow discharging 40,000 gallons daily, and this plant can easily be doubled with slight cost. Outside the tank is a silt chamber which collects the solid matter—rags, etc. When the discharge stands three or four hours all odor is gone, no putrefaction occurs, but a free growth of algæ ensues. This, costing but $4000, cares for 80,000 gallons a day.

SPREAD OF TUBERCULOSIS.

Dr. R. P. Francis, Montclair, N. J., read a paper on "What Action Shall be Taken by Boards of Health to Prevent the Spread of Tuberculosis?" This disease is not regarded by the people as contagious, while smallpox, etc., are so well known in this category that all generally agree to the need of quarantine, etc. Public opinion must be educated in this regard and particularly to have full confidence in the boards of health, then the latter will have little difficulty in carrying out their plans for safety. There is now no doubt among sanitarians as to the contagiousness of consumption. Wherever we find this generally accepted the disease is on the decline. In fact, this holds good generally, because of the better sanitation at the present time, ventilation, living, etc. In thirty years we have a decline of over 44 per cent. It is hard to get reports of cases of consumption, and isolation would not be tolerated, for this might be needed for many years. Spitting ordinances are very valuable, and generally we find these accepted and proving useful. Spitting cups of various kinds have been offered; if we could procure a general use of these we might then destroy much of the danger by fire. Unfortunately these are limited to the bedrooms, or hospitals. Traveling also conveys this disease very readily, and milk is another means, hence the value of sterilizing. Many cows are tuberculous, unknown to the owners. Tuberculin is of great value as a means of diagnosis to show whether the cattle are thus infected. Finally, we need to give the patient early care, as shown by the results which have been obtained in many instances. It is the duty of the state to erect consumption sanitaria so that the poor may be provided with places in which they may obtain the proper treatment, this not only to prevent the spread of the disease but, as has been seen, patients may thus be cured. It was feared when the first such place was instituted that few people would be willing to go to its protection, but on the contrary we find this always full.

Prof. W. L. Sedgwick, Boston, said that dust causes this disease very largely. Sunlight destroys the bacillus very readily. Spitting in public in Boston has been greatly stopped. The public accept the fiat with marvellous readiness. Education is the most important means by which to aid the prevention. Spitting is very much a habit, and can be done away with when people find they must not do it. We must instill into the minds of all that we can not allow the few who are diseased to constantly give to others that disease. Railroad sanitation is also a means to the prevention of this disease. The railroad people are willing to accept all our views and do all in their power to aid us. The drinking-cup is still a bad feature, not only on the roads but at the schools, and everywhere. This must be abolished, and each one required to provide his own cup. A very excellent plan adopted at some schools is the turning up of the pipe so as to cause a fountain play in the midst of the flow; at this the child can drink readily with no possibility of infecting the water. He wished to impress on all that the Hospital for Consumptives is not in Massachusetts, but in Rutland, Vt. It has been a great success.

Dr. Currie said that the cup causes much trouble. It often carries sore throats from one person to another. Sleeping together of diseased persons also aids to spread the disease.

The Association elected the following officers: president, George W. Howell, Montclair; vice-presidents, H. B. Baldwin, Newark, H. B. Willis, New Brunswick, and J. L. Leal, Paterson; secretary, J. A. Exton, Arlington; treasurer, C. P. Olcott, East Orange.

Philadelphia Pathological Society.

Nov. 23, 1899.

MORBID CAVITIES IN THE LIVER.

Dr. A. V. Meigs, in a paper on this subject, stated that after death it is common to find cavities in the liver, usually the result of fatty degeneration, and the specimen is designated "nutmeg liver." This condition is usually associated with heart disease, and is generally the result of obstruction of the circulation. In some instances cavities are found filled with fluid of a cystic nature. In the nutmeg liver there is an overgrowth of fibrous tissue between the acini. In many of these the cavities can only result from cystic degeneration.

SARCOMA OF MEDIASTINUM.

Dr. J. P. Arnold presented a specimen of sarcoma of the mediastinum. The patient was a man, 29 years of age, who was admitted to the Presbyterian Hospital in August, 1898. There was nothing in the family history to indicate the nature of the condition. He had been gradually failing for several months; later cough and dyspnea came on, and he lost ten pounds in weight, with, after a time, pain in the right side, with urgent dyspnea, together with cyanosis of the lips and neck. Measurement of the chest showed the right side to be 1½ inches greater than the left. Auscultation revealed exaggerated breathing on the left side. Aspirating the affected region on the right, a small amount of bloody fluid was obtained, and at one time tubercular pleurisy was thought of. On aspirating again the needle struck a hard and resisting body.

Death occurred on the nineteenth day. At the autopsy a tumor was found adherent to the mediastinum, appearing as though it originated in the anterior mediastinum, later involving the lung. The usual symptoms of tumor of the mediastinum were present, as dyspnea, cyanosis, weakness, displaced apex-beat, immovable dulness, and, on aspirating, a solid body was found. Dr. Meigs stated that a few years ago he had reported a case of sarcoma of the mediastinum in which there had been metastasis into the esophagus, oculomotor nerves, optic nerve, and the orbital lining.

EXPERIMENTAL PANCREATITIS.

Dr. Simon Flexner's paper was based on results obtained in dogs, the experiments extending over eighteen months. The results proved that all varieties of pancreatitis found in man can be produced in dogs. In cats, fat-necrosis can also be produced. In these experiments he injected irritants into the duct of Wirsung, including hydrochloric acid, sulphuric acid, diphtheria bacilli, and the bacillus pyocyaneus. Of these the best was hydrochloric acid. The experiments were undertaken in order to establish whether pancreatitis is due to chemical or bacterial agencies. He found that, early, there is produced a fat-splitting ferment, detected by chemical means and by its odor. One writer believes the condition depends on a bacterial agency, while another found that the injection of bacteria into the ducts of the pancreas was followed by negative results. While all varieties of pancreatitis may be experimentally produced in dogs, that one most frequently met with is the hemorrhagic form. In some of the cases sugar was found in the urine, but the blood had not been examined. In some instances the animals were killed months after the experiments, and the changes found. In many, the areas of fat-necrosis were small. The fat-splitting ferment was found on the third day of the experiment.

TUMOR OF OCCIPITAL LOBE.

Drs. W. G. Spiller and **W. S. Wadsworth** presented this specimen. The patient was a girl, 16 years of age, who, 1½ years previously began to suffer from diplopia and various ocular symptoms. She had been in bed for three weeks preceding her entrance to the hospital. There was no ocular paralysis, no albumin and no sugar in the urine. The case was diagnosed as brain tumor. The patient had a convulsion nine months previously, followed three months later by a subsequent one. As the disease progressed, convulsions occurred daily. The tongue had not been bitten. During the convulsions the pupils were absolutely immobile. At autopsy a tumor was found which filled up the posterior horn of the lateral ventricle and extended quite deeply into the surrounding brain tissue. The right hemisphere was much atrophied. In one area there were remains of an old hemorrhage, and in another calcification was present. On section the tumor was believed to be an alveolar sarcoma.

Philadelphia Neurological Society.

Nov. 27, 1899.

FACIAL MYOPATHY.

Dr. F. X. Dercum presented a case of facial myopathy occurring in a woman 22 years of age. She was a native of Russia and the family history negative. Six years ago a tumor was removed from the back of her neck. The face appeared flattened, the fatty tissue in the region of the masseter muscles being absent, leaving a depression. The eyes were prominent; when the patient smiled the angles of the mouth were drawn in horizontally. The muscles of the arm and leg were large, but gave no evidence of pseudohypertrophy. The facial responded to both the faradic and galvanic current.

GYNECOLOGIC SUGGESTION IN MELANCHOLIA.

Dr. Frank Savary Pearce reported a case of melancholia cured by gynecologic operative suggestion. The patient was a woman, 25 years of age, admitted to the Howard Hospital in October, 1898, stating that she had been raped and in consequence had become pregnant. With this delusion there also existed symptoms of hypochondria and melancholia. At one time she had taken pennyroyal with the intention of causing abortion. When admitted, anemia was intense. Dr. J. B. Shober had made an examination and had found an acute anterior flexion. A curettement was done and the menses became regular. In May of the present year the patient appeared to be relieved of her symptoms.

EPILEPTIC AMBULATORY AUTOMATISM.

Dr. Pearce also reported a case of this condition, some attacks probably due to gastro-intestinal autointoxication. The patient was a dyspeptic and frequently suffered from acute attacks of indigestion, during which time large quantities of gas would be expelled, indicating rapid fermentation. Occasionally he would manifest symptoms of grand mal, and at times would become maniacal. During one of these spells he called loudly for his wife and ran from one room to the other, clutching the beds as he ran. Later he fell into a post-epileptic sleep and after expelling a large quantity of gas experienced relief. Under salol and hydrochloric acid the attacks became less frequent and his health has greatly improved.

CEREBROSPINAL SYPHILIS.

Dr. F. X. Dercum reported a case of cerebrospinal syphilis with unusual brachial palsy. The patient was a colored man, 25 years of age, who four years previously had suffered from syphilis. Eighteen months ago he began to suffer from palsy in the ocular muscles, together with headache and marked disturbance of sleep, and fourteen months ago became unable to extend the fingers of the right hand, while the muscles of the forearm became weak; three months later the left arm became similarly afflicted. Afterward the flexor group of muscles showed evidences of palsy. The triceps was almost totally paralyzed, while the biceps was in good condition. The muscles of the forearm were atrophied; the pronators were weak, but the function of the supinators was not interfered with. There were no bladder symptoms; knee-jerk was increased. The condition, therefore, was one of lower arm palsy, and the lesion probably in the region of the seventh or eighth cervical segment.

ISOLATED ABDUCENS PALSY.

Dr. Wendel Reber, by invitation, reported a case of this condition, probably peripheral, in a woman, 50 years of age. The first symptoms appeared in July of the present year. She stated that one morning when she awoke the left eye was rotated inward; on examination, diplopia was found, as was also a high degree of myopia. On questioning closely it was found that she slept in a draft, and nearly always on the right side. The urine contained a large percentage of uric acid. Treatment consisted in adjusting glasses, stretching the ocular muscle affected, and in the administration of potassium iodid and salicylate of sodium. The patient is now again able to rotate the eye in all directions.

AMYOTROPHIC LATERAL SCLEROSIS.

Dr. Wm. C. Spiller reported a case showing the extent of the motor cortex in man. The patient had been a laborer, and was 55 years of age. In November, 1897, symptoms had begun with dribbling of saliva, and later loss of motion in the legs, the muscles of which became much atrophied. The patient died about one year after the symptoms became manifest. Examination consisted in making sections in many areas of the motor tract of the brain and down the spinal cord. It was found that areas of degeneration had been present and there had been marked pigmentation of certain nerve-cells, especially in the cortex of the brain. The anterior roots of the spinal cord were atrophied. The areas of degeneration of this case were traced by the Marchi method. The changes found showed that atrophy as well as degeneration was one of the changes.

Denver and Arapahoe Medical Society.

Denver, Colo., Nov. 14, 1899.

AUTOINSUFFLATION OF THE STOMACH.

Dr. C. D. Spivak described the various methods of insufflation of the stomach, and pointed out the following disadvantages in the use of carbonic acid gas, atmospheric air or air exhaled from the lungs of the operator.

1. Since stomachs are not all alike in point of capacity, it is impossible to estimate beforehand the exact quantity of the acid and alkali required to generate sufficient carbonic acid gas to just fill the stomach. At one time the quantity may prove insufficient, and the procedure must be repeated. At another, the quantity may prove too large and cause distress to the patient on account of overdistension.

2. Since the physician is unable to increase or diminish the quantity of air introduced, he is unable therefore to examine the stomach under different states of distension.

3. As the gas begins to escape through the mouth as soon as generated, it is obvious that inspection, palpation and percussion must be performed in a great hurry, and therefore imperfectly.

4. Carbonic acid gas acts in many instances as an irritant to the mucous membrane of the stomach.

5. The introduction of atmospheric air into the stomach by means of a spray apparatus requires an assistant, otherwise the physician is unable to inspect and percuss the abdomen at the same time.

6. The introduction of atmospheric air requires a separate instrument—a spray apparatus.

7. The insufflation of the stomach by means of blowing into the stomach, the exhaled air from the operator's lungs, through the stomach-tube, is unsatisfactory from a mechanical standpoint. The operator has to blow with his mouth, clamp the tube with one hand so that the stomach contents of the patient should not come in contact with the mouth of the operator, and there is only one hand left for the imperfect performance of the palpation. Percussion, as a matter of course, is out of the question.

The exhaled air is certainly not an esthetic method, notwithstanding the fact that Dr. Fürbringer claims (*Deutsche Med. Woch.*, Oct., 5, 1899) that none of his patients have ever objected to the use of his breath. The German patients must differ in nature from the Americans. The American patient dares to ask his physician whether he is sure that the stomach-tube has been carefully sterilized.

9. The exhaled air is not hygienic. The patient or the physician may suffer, or they may suspect one another to suffer from tuberculosis, syphilis, foul breath, or what not.

Dr. Spivak exhibited his autoinsufflation tube, by means of which the patient is able to insufflate his own stomach by the breath of his own lungs. It is well known that a man with a tube in his throat is able to converse, sing and blow. Why should not the patient blow up his own stomach? This tube is the regular stomach-tube, with a side opening made at such a distance from the proximal end that when the tube is *in situ* the opening is to be found in the buccal cavity. The free end of the tube is clamped, and the patient is told to shut his lips and blow up his cheeks. The air in the mouth finds its way into the stomach through the side-opening. The patient is to keep his mouth shut until the end of the operation.

Dr. Spivak summed up the advantages of his method of autoinsufflation as follows: 1. The stomach tube answers the purposes of insufflation. No other instrument is necessary. 2. The method is absolutely under the control of the physician. 3. The procedure is harmless. 4. The patient will not object to using his own breath. 5. The operator is in no way handicapped. He is free to inspect, palpate, percuss and even talk to his patient. 6. The physician runs no risk of tasting the stomach contents of his patient.

SOME REASONS WHY THE EYE SHOULD RECEIVE MORE ATTENTION AT THE HANDS OF THE GENERAL PRACTITIONERS.

Dr. Melville Black read a paper on the above subject. He said, in part: The eyes are presided over by the external geniculate bodies, and the oculomotor, trochlear, and abducens centers. The amount of brain territory occupied by all these centers is about six times that devoted to the leg centers. We can by comparison of the amount of brain centers devoted to each, form some estimate of the enormous amount of nerve force the eyes demand. It is a well-known fact that Nature makes mistakes. It is exemplified in the eyes. They are called on for more work than any other organ in the body. It is most important that their associate action should be undisturbed; else there is an excess of nerve force expended in the endeavor to bring about harmonious action. So long as the economy is able to provide the additional nerve force, the individual may be unconscious of its loss, but just as soon as the vital force is unable to keep the supply up to the demand, then the fight for supremacy begins between the eyes and the other organs. The eyes may not give evidence of being in any way disturbed, but some remote organ may be affected, the heart may drop a beat now and then, may become weak in power or rapid in action. The stomach, lungs, liver or kidney may be suffering from a deficiency of nerve supply. He believes that every physician should be equipped to make an examination of the vision and the muscle balance. The apparatus required would be a box of prisms and a candle and a test cord. The cost need not exceed $10. Many a case of functional heart, kidney, liver or stomach trouble would in this way be diagnosed as indirectly due the eyes, and the appropriate correction of the ocular error recommended. The "refracting optician" is certainly not qualified to handle an organ which has such an important bearing on others. The services of the optician should only be required in cases which the general practitioner can not handle.

Southern Surgical and Gynecological Association.

(Continued from p. 1550.)

Second Day—Morning Session.

SURGERY OF BILIARY CALCULI.

Dr. W. D. Haggard, Nashville, Tenn., contributed a paper on this topic. He emphasized the frequent findings of gall-stones —10 per cent.—in the abdominal cavity, but said their unsuspected existence was not a valid contraindication to operation in cases which, owing to certain complications, menace well-being and perhaps life itself. After enumerating the usually assigned cause of gall-stones, he emphasized the undetermined probability of infection. The continuous pain in inflammatory and suppurative conditions of the biliary passages was contrasted with the intermittent and paroxysmal pain from biliary concretions. In connection with the diagnosis, the fact that jaundice was not essentially a sign of gall-stones was urged, and waiting for icterus as an evidence of their existence was hurtful.

The relatively small number of operations, compared with the frequency of the disease, indicated that they were either overlooked, failed to give rise to serious trouble, or that the symptoms were taken for other diseases.

He quoted from Robson the indications for operation. The various incisions were described, and the operations of cholecystotomy, cholecystendysis, modified cholecystotomy—without suture—and cholecystectomy were discussed.

He said that the surgery of the gall-bladder was almost perfected, but the management of calculi in the ducts by various methods was yet unsettled. He discussed the various operations on the ducts. He also reported the following case of colo-cholecystostomy for chronic catarrhal cholangitis with gall-stones:

B. J. G., white, male, aged 27. Had his first severe attack of biliary colic attended with tenderness and jaundice in February, 1897. He had a severe light attack of hepatic colic some weeks before. He was operated on the day after he was taken with the severe attack, by Dr. J. F. W. Ross, Toronto, Ont. A number of stones were removed, a fistula made, and a drainage tube kept in for two weeks. The fistula remained open until June, 1897, when Dr. Ross closed it by suture, and the man, who had been in bed the whole of four months, was up in a week. In November, 1897, he again had a number of attacks of colic and jaundice, which kept up intermittently until March, 1898, when Dr. L. McLane Tiffany, Baltimore, Md., opened the gall-bladder, but finding no stones he closed it by immediate suture, fixing it to the abdominal wall, and closing the incision throughout. In June of the same year, while still in the hospital, he was again seized with attacks of colic and transient jaundice, which, in the absence of Dr. Tiffany in Europe induced his assistant, Dr. I. R. Trimble, to again open the gall-bladder for exploration. Dr. Trimble found no stones, and thought he succeeded in passing a rubber catheter through the cystic duct, and thence into the duodenum. The gall-bladder was sutured and attached to the abdominal incision, which was closed by buried and superficial silkworm gut sutures. On July 3, he had received a blow on the skull with a piece of wood in the hands of a drunken assailant, which resulted in a fracture of the skull, which was elevated by Dr. Robert Pillow, of Columbia, Tenn.

In August, 1899, fourteen months after the third gall-bladder operation, the pain and colic returned, and were rather frequent and more severe than ever before. On October 1 he had a spell that lasted four days, and could obtain no relief from anything. He came to see Dr. Haggard in Nashville, and while there had one of the worst attacks he had ever seen of biliary colic. He gave the patient 2¾ gr. of morphia hypodermically in less than three hours, without any appreciable effect on the agonizing pain. He was not accustomed to taking morphia, and ⅛ gr. after the operation had a very happy and full effect.

On Nov. 12, 1899, in the presence of jaundice, which had existed pitifully for two months, Dr. Haggard made an exploratory operation through the old scar, parallel with the ribs. As the gall-bladder was attached to the parietes, it was opened, and a black, tarry fluid was found therein, and one single, large gall-stone, soft and perfectly black and somewhat larger than a cherry stone, together with some smaller crystal-like stones. An effort was made to catheterize the ducts, as had been reported to have been done before, without success. The gall-bladder was irrigated and temporarily packed with gauze. It was then dissected from the parietes below, and a careful palpation of the ducts was made, but no other stones could be detected. The adhesions were considerable, as the result of so many previous operations and such long-continued inflammatory trouble, and the gall-bladder was much contracted. Kelly, Senn and Murphy had all advised a cholecystectomy, but after he found no calculus obstruction to account for the recent colic and existing jaundice, he concluded it must be a chronic catarrhal cholangitis with inflammatory obstruction that came and went. He therefore deemed it unwise to do a cholecystectomy and decided to do a cholecystenterostomy. The duodenum, however, was so matted with adhesions, and the gall-bladder was contracted to such an extent, that he did not think he could make the anastomosis with safety. He therefore utilized the hepatic flexure, and made a Murphy button anastomosis with gauze drainage. There was no untoward symptom; a little bile came out after the gauze, when it was removed on the third day, but none thereafter; the drainage tract closed quickly. The jaundice faded, urine cleared up, and the patient had two normal bowel actions a day, whereas he had been previously taking purgatives daily. He went home at the end of two weeks, with a clear complexion, and a gain in weight, and has had no trouble since, but the button has not passed.

McGuire reports a button retained over a year in cholecystenterostomy, but Treves has never had one remain in the gall-bladder.

Dr. F. W. McRae, Atlanta, Ga., narrated a case operated on a few months ago in which a diagnosis of cholecystitis was made. At the operation an unusual condition of affairs was found. Instead of a distended gall-bladder, he found enlargement of the liver, with great distension of a cavity in this organ, hard and nodular to the feel, and occupying this cavity and some small pockets in various directions in the liver were fifty-eight stones, which he exhibited. The adhesions were extensive, but no pus was found.

Dr. J. G. Earnest, Atlanta, Ga., directed attention to the symptom, jaundice, saying that it does not appear unless there is obstruction of the common duct. Simple obstruction of the cystic duct does not necessarily produce it. In two or three cases in which he has found the gall-bladder filled with inspissated mucus and complete obstruction of the cystic duct, but no obstruction of the common duct, there was no jaundice, while in other instances of common duct obstruction, jaundice was present.

Dr. Hugh M. Taylor, Richmond, Va., recalled a case which was diagnosed at first as cholecystitis. The patient had been jaundiced for six weeks. The abdomen was opened, and on incising the gall-bladder and removing a stone from it, he found no obstruction of either the cystic or common duct. He did a cholecystostomy, and drained the gall bladder, but the patient did not recover. Two months later he reopened the abdomen, and, after a very careful examination, found malignant disease of the head of the pancreas sufficient to press upon the common duct and produce jaundice.

Dr. Manning Simons, Charleston, S. C., reported a case in which he removed the whole gall-bladder, and said, after a careful search of the literature at his command, he could only find twenty cases. The tumor in his case presented just below the ninth rib, as large as a goose egg. An exploratory operation was made, and the tumor was found to be the gall-bladder, which was removed because its walls were greatly thickened and pus had disseminated itself throughout them. He believes that if it had not been removed at that time, and promptly, there would have been extravasation of pus into the abdominal cavity. Three gall-stones were found. There was very little jaundice present.

Dr. A. M. Cartledge, Louisville, Ky., spoke of the cholemic cases, and said that in the use of the normal saline solution, he employed either subcutaneously or per rectum, for ten days, two weeks, or in bad cases three weeks, before operative interference, surgeons have one of the most valuable means of overcoming cholemia in patients with gall-stones.

The paper was further discussed by Drs. Lewis S. McMurtry, J. Wesley Bovée and George S. Brown.

INFLAMMATION OF MECKEL'S DIVERTICULUM WITH RESULTING GANGRENE OF INTESTINE SIMULATING APPENDICITIS.

Dr. Wm. P. Nicholson, Atlanta, Ga., followed with a paper on this subject. He said that the pathologic conditions arising from the diverticulum have been in most cases due to portions of the intestine being entrapped within the encircling cord where the diverticulum has existed in this form; in some instances there has been an acute inflammation of the pervious tube, that has caused adhesions and resulting obstruction. Again, the inflammation seems to have extended to the intestinal tube, causing paresis of the bowel, especially simulating the later stages of appendicitis. In a few cases the symptoms and signs have been so much like inflammation of the appendix that a diagnosis has not been possible. He reported an interesting and instructive case, and briefly mentioned other cases he had found in consulting the literature. He also reported a case of successful implantation of an artificial testicle.

TWO CASES OF INTRALIGAMENTOUS CYSTS.

Dr. T. J. Crofford, Memphis, Tenn., reported these cases:

Case 1.—Miss T., aged 50, presented herself with an abdominal tumor, July, 1899. A few days later the abdomen was opened, and the tumor found to be an intraligamentous cyst. Both ovarian arteries were ligated and the uterine artery on the healthy side at as low a level as the internal os. The uterus was cut across, the uterine artery secured on the tumor side and the enucleation of the tumor proceeded with. The loss of blood was considerable, although the enucleation was done rapidly. Several arteries in the broad ligament required ligation, and one or two deep down in the pelvis needed to be secured before hemorrhage was under control. The cavity was obliterated as much as possible by suturing together the two layers of the ligament. The woman recovered.

Case 2.—Mrs. S., aged 42, presented herself with an abdominal tumor Oct. 31, 1899. During the month of June last she experienced an attack of acute peritonitis which came near being fatal. The acuteness of the attack subsided, but a chronic peritonitis has existed ever since. Abdominal section was made November 6. Two tumors were found, one on each side, developed between the layers of the broad ligaments. The ovarian arteries were secured near the brim of the pelvis. The tumors, which were not of very large size, were separated from the uterus as far down as the operator dared, and the uterine arteries were secured as low as possible after emptying the cysts. The hemorrhage was alarming at every attempt at enucleation, on all sides. The larger vessels in the broad ligaments and walls of the cysts, several in number, were therefore ligated. The upper portion of the sacs was trimmed off and covered with peritoneum. After the oozing had stopped the abdomen was closed without drainage. The patient has had an uninterrupted convalescence and has returned to her home.

The essayist said that Dr. Rufus B. Hall, of Cincinnati, had proposed the method of ligating both ovarian arteries and the uterine artery on the healthy side. The uterus was next amputated on a level with the internal os; the uterine artery on the tumor side was not secured when he could peel out the cyst from between the layers of the broad ligament with a bloodless result. While he did not wish to detract from the merits of this achievement, yet the method is not to be implicitly relied on as it will not control hemorrhage in all cases to a safe degree; in some instances there will be found other vessels requiring ligation before the hemorrhage can be controlled within the bounds of safety. Some tumors of the broad ligament can be peeled out without hemorrhage; others will be attended with considerable loss of blood.

PRESIDENT'S ADDRESS.

Dr. Joseph Taber Johnson, Washington, D. C., in his address, touched on general subjects pertaining to the work and growth of the Association. He said the southern part of our country had furnished many noted surgeons and gynecologists to the medical profession, hence the name of the Association derived greater appropriateness and significance from this fact. He referred to McDowell, Eve, Dudley, Sims, Thomas, Battey and Emmet. The best gynecologists are now the best surgeons, as far as they go. In abdominal, pelvic and genital surgery, few general surgeons equal, and none surpass them. Their field of work is more narrow, but none the less perfect and important on that account. While many gynecologists might take exception to such an absorption of our specialty, the gradual expansion of our work to the female pelvis gives the important argument for such an occurrence in the not distant future. It is not difficult to recall when gynecology was limited altogether to vaginal and pelvic work. Now there are very few gynecologists who are not operating on any tumor between the diaphragm and the vulva. The gynecologists attack ulcers and abscesses of the stomach, and anastomose that organ with the intestine. They do all the surgery of the ureter and kidney, the liver and gall-bladder, of the intestines, the spleen and pancreas. They operate for appendicitis and for all the varieties of hernia, and do the surgery of the bladder, the rectum and the mammary gland.

There was no afternoon session of the second day. The members and guests took the steamer *Warren* and rode to the sugar plantation Stanton, and inspected it. (See Journal, December 16, p. 1561).

Second Day—Evening Session.

EXPERIENCE IN OPERATIONS FOR TYPHOID PERFORATION.

Dr. Hugh M. Taylor, Richmond, Va., read a paper on this subject. He said it is claimed that one-third of the deaths from typhoid fever are due to perforation, this being credited with a mortality of 16,660 each year in the United States. The specialist in surgery appreciates what surgery can do and has done in the treatment of typhoid perforations. The general practitioner, into whose hands these patients annually first fall, is not so well informed, and he believes the Association should express itself in no uncertain sound. It is claimed, too, that one-fifth of the deaths from typhoid fever are due to hemorrhage. This being so, it would seem just as unsurgical to let a typhoid patient die without an effort to save his life as it would be in the case of profuse hemorrhage from a gastric or duodenal ulcer, or even a ruptured tube gestation. The author reported five cases, with one recovery from operation. He said that less than two hundred cases have now been operated on, and when one recalls the thousands of cases annually occurring, the need of co-operative study is apparent. Nothing short of a moribund condition of the patient should warrant surgeons in abandoning a case as hopeless. The key to success is early operation. More than one-fourth of the cases operated on have been saved by early surgical intervention. He believes that surgeons should be able to save more than 33 1/3 per cent. by a timely operation.

CASES OF ABDOMINAL SURGERY.

Dr. F. W. McRae, Atlanta, Ga., reported some interesting cases of abdominal surgery. The first case was one on which he operated for a pancreatic cyst; the second for hepatic calculi; the third for fecal fistulæ, and in the fourth he did a combined appendectomy and nephrorrhaphy.

LITHOLOPAXY.

Dr. Geo. S. Brown, Birmingham, Ala., read a paper with this title. A very limited experience with the operation of litholopaxy has led him to believe that it is being unwisely, although not altogether unreasonably, neglected. The most important cause for this neglect is that perhaps cutting operations, particularly the suprapubic, are very easy to do, and the results very satisfactory. He quoted the statistics of the different methods of operating for stone in the bladder, and reported cases in which he had resorted to litholopaxy with good results. He believes the majority of stones met with in practice in this country can be removed with the lithotrite in the hands of an ordinarily careful surgeon, and that while it is not an operation to be undertaken by the general practitioner, no operating-room should be without one, as the suffering and time spent in bed are almost entirely eliminated, and the mortality is very much lower than that for either of the cutting operations.

Third Day—Morning Session.

Dr. E. D. Fenner, New Orleans, La., reported fifteen cases of spinal injuries, treated at the Louisiana Charity Hospital.

Dr. Geo. H. Noble, Atlanta, Ga., described the modification of an operation for cystocele. He also reported a case of seventeen years' congenital, nocturnal incontinence of urine, and one of pregnancy in a uterus bicornus.

Dr. I. L. Watkins, Montgomery, Ala., presented a paper on the "Treatment of Retrodisplacements of the Uterus."

The following officers were elected: president, A. M. Cartledge, Louisville, Ky.; vice-presidents, Manning Simons, Charleston, S. C., and W. P. Nicholson, Atlanta, Ga.; secretary, W. E. Davis, Birmingham, Ala.; treasurer, W. D. Haggard, Jr., Nashville, Tenn. Atlanta, Ga., was selected as the place for holding the next meeting, the second Tuesday in November, 1900.

Ninth International Congress of Ophthalmology.

Utrecht, August.

(From Revue Gen. d'Oph., Presse Med. and Nord Med.)

DIAGNOSIS OF SINUSITIS.

Lapersonne called attention to the ocular manifestations which are sometimes the only means of diagnosing grave sinusitis, with three typical observations in which unilateral optic neuritis with stasis of the papilla was the only clew to the discovery of lesions of the sphenoid sinus and posterior ethmoid cells.

RENDERING LENS OPAQUE.

Jocqs recommended a method of rendering the crystalline lens opaque, which he had found very harmless and effective in experiments on rabbits and dogs: after anesthesia of the cornea and dilation of the pupil with cocain, he punctures the anterior chamber at the periphery with a fine needle in the Pravaz, and aspirates a few drops of aqueous humor into the syringe, then, without removing the syringe from the anterior chamber, he punctures the lens obliquely and injects into it the aspirated fluid. By the second to fifth day thereafter the lens has become opaque and the whole of it can be readily extracted like a soft cataract in childhood. Bull called attention to the desirability of stereoscopic tests for measuring the degree of difficulty of fusion of the two images, paying particular attention to the subjective sensations of the subject.

TRACHOMATOUS CONJUNCTIVITIS.

Coppez described his method of treating this affection: electrolysis under chloroform, with the negative electrode on the granulations—Wecker's small steel fork—the current, 4 to 5 milliamperes; never allowing the points to enter the tissues, which are then wiped and gently frictioned with tampons moistened with 4 per 1000 sublimate. There is no pain afterward. A bandage is worn for twenty-four hours, to prevent swelling of the lids; lachrymation is soothed with cocain. The production of a thin false membrane the next day is indication that the maximum effect has been attained, and the granulations then rapidly disappear. The conjunctiva is then brushed with a cotton tampon—dipped in 4 per 1000 sublimate twenty to thirty times—until it is slightly tinged with blood. This is repeated every day. If a thick pannus covers the cornea the conjunctiva is painted three or four days after the electrolysis once with a 5 per cent. maceration of jequirity. Over 350 patients have thus been treated with almost constant success. The total length of treatment varies from three to six weeks. Obarrio described his test of vision by noting the minimum displacement perceived on dividing a luminous line into two parallel halves. The test is the same for all colors, and he establishes the minimum visual angle at 14 seconds.

SEA-WATER IN INFILTRATIONS OF CORNEA.

Dianoux reported his success in the treatment of all infiltrations of the cornea with injections of sea water, as chemically analogous to human serum. He finds it more rapidly effective than any other method.

VARIABILITY OF CURVE IN CORNEA.

Pfalz has been studying a number of subjects for four years—controlled the last two with Sulzer's eccentric ophthalmometry—with 2574 tests in all, both ophthalmometric and optometric. He thinks he has approached the solution of the questions in respect to the variability of the curve of the cornea with age and the share of the curve of the lens in the total refraction: 1. The curve of the cornea changes from childhood up, the change varying in intensity, stationary at times, but never retrogressing, continuing in the sense of primordial rectus astigmatism into inverse astigmatism. 2. In inverse astigmatism the astigmatism of the lens plays a more and more prominent part after the thirtieth year. Sulzer's assertion that every case of inverse astigmatism without astigmatism of the cornea perceptible by the ophthalmometer should be attributed to an eccentric inverse astigmatism does not apply to any except young subjects. In the adult and at an advanced age it should be attributed to astigmatism of the lens, usually inverse. 3. Astigmatic accommodation has some share in the determination of astigmatism in young subjects, but only in regular astigmatism. With advanced years this condition of the lens surpasses the astigmatism of the cornea. The rarity of this occurrence in youth is due to the elasticity of the lens and its more spherical form. It is only after 30 that the inverse form becomes evident. The elasticity of the lens in youth is more pronounced in the vertical than in the horizontal meridian.

The next session of the Congress will be in Switzerland in 1904.

St. Louis Medical Society.

Dec. 2, 1899.

EPIDEMIC CEREBROSPINAL MENINGITIS: A CLINICAL AND BACTERIOLOGIC STUDY OF THE CASES.

Dr. R. B. H. Gradwohl, by invitation, read a paper on this subject. He began with a history of the disease in its most important visitations to Europe and this country, and then gave a complete description of the diplococcus intracellularis meningitidis, following the outline of investigation laid down by the Committee of American Bacteriologists in their report to the Committee on the Pollution of Water-Supply, of the American Public Health Association. This included a full description of the morphologic and biologic characteristics of the organism. His reason for exhaustively following out this investigation was that a complete bacteriologic investigation of this micro-organism had not previously been made. He then gave an account of the pathogenesis of the diplococcus intracellularis for the lower animals, especially dogs and cats, in which he succeeded in reproducing the disease by inoculations into the subdural spaces. He proved that the virulence of the infection in these animals corresponded with that of the infection in a particular case in man.

Pathologic findings were then narrated. Gross changes consisted for the most part in a purulent exudation over the meningeal surfaces. Microscopic changes consisted of an increase in the nuclein of the protoplasm. Various degrees of degeneration were noted in the cranial and spinal nerves. The cord showed changes similar to those pointed out by Barker, i. e., a disintegration in the stained section of the individual Nissl bodies, especially in those of the dendrites and of the periphery of the cell body; also a breaking down in the center of the cell and displacement of the nucleus to its periphery.

In these cases, the diplococcus intracellularis was demonstrated in all but one case; in that one the micrococcus lanceolatus was found, and this case, clinically, was no different from the others. Emphasis was laid on lumbar puncture for diagnostic and prognostic reasons. A chart and graphic representation of these cases from a clinical standpoint was then shown and some of the cases detailed more extensively.

The conclusions of the doctor are as follows:

1. Epidemic cerebrospinal meningitis is a specific, infectious disease. 2. It is not highly contagious, but only so in the sense that tuberculosis pulmonalis is contagious. 3. The diplococcus intracellularis is the prime etiologic factor in the causation of epidemic cerebrospinal meningitis. 4. In all suspected cases of meningitis, lumbar puncture should be resorted to as a means of differential diagnosis between the sporadic and the epidemic form, and also for prognostic reasons. 5. The Gram method of staining is a rather uncertain means of differentiating the diplococcus intracellularis from the micrococcus lanceolatus. 6. The diplococcus intracellularis is especially pathogenic for dogs and cats. 7. The virulence of the infection, i. e., of the diplococcus intracellularis, varies in different cases and in different periods of its visitation on the same patient; the virulence of the infection tends toward an attenuation with the further progress of the disease, and in the more chronic cases which have gone beyond the period of one month the virulence of the infection is almost lost. 8. The sign of Kernig is pathognomonic of meningitis. 9. Epidemic cerebrospinal meningitis can be transmitted *in utero*, as in a case reported—the twelfth case of the epidemic.

Detroit Medical and Library Association.

Detroit, Mich., Dec. 5, 1899.

CONTAGIOUSNESS OF TUBERCULOSIS.

Dr. E. L. Shurley read a paper entitled, "The Nature and Causes of Tuberculosis." He said that the disease had been declared dangerous to the public health, contagious, infectious, etc., by a very worthy portion of the medical profession, besides several of the sanitary bureaus of the different civilized countries, but that this declaration had been rejected by the minds of many equally responsible, honest and earnest medical observers. In Austria and Italy, he said, pulmonary consumption had been declared contagious, at the beginning of the present century, and subjects of the disease were isolated and quarantined until humane and intelligent persons were moved to compassion by the pitiable condition of the people placed under the working of the law, and so effectually interceded that the laws were abrogated. History is now about to repeat itself in many of the states of the Union, and especially in our own state. The Doctor then proceeded to make a plea against the enforcement of a law quarantining and isolating consumptives. The trend of his argument was that when a disease is so dangerous that it spreads from a sick person to a number of healthy persons readily, by contact, carrying also serious or fatal consequences, there can be no question that rigid quarantine and isolation regulations should be enforced against it. But when spreading—if at all by contagion—slowly, covering months or years in its course, it does not call for such measures. Tuberculosis is a disease of the latter character, because it is believed to be a disease which attacks only those who have a tendency or a nidus for its development; because certain forms occur in which no bacilli of tuberculosis can be found; because even in an artificial way, under intelligent supervision and outside the operations of the natural laws of chance, the attempt to produce this disease in the lower animals susceptible to it often fails, and where success has resulted it is probably in cases where the animals are diseased or have been living under the most adverse sanitary environments; because there are a great many thousand instances where a person has been exposed, under distressing circumstances, for a long time to a tuberculous patient without contracting the disease. In conclusion, the Doctor said: "If the medical profession is to have, as it should, the custody of the public health, then it is for the medical profession to say how far patients shall be required to give up their business, their prospects in life, and everything that is close and dear to them of a temporal nature for the benefit of their fellows. I feel for one as though I would quite as lief ask my neighbor to go upon the scaffold and give up his life to expiate the sins or excesses of his ancestors as to ask him to give up his business, his home, and allow himself and his family to become ostracized paupers until the end of his life, because he has a chronic cough."

Detroit Academy of Medicine.

Nov. 28, 1899.

PERNICIOUS VOMITING OF PREGNANCY.

Dr. Frank B. Tibbals read a paper. He said in substance: The term pernicious vomiting is applied only to those grave cases where persistent vomiting and retching threaten life because of the malnutrition and anemia they induce. In the pernicious cases all drugs, except in so far as they go toward sustaining life, are useless. Hence treatment must be based on the conclusions drawn from a careful physical examination of the patient, especially from a thorough exploration of the pelvic organs. Among the more common abnormalities that are found and for which treatment must be instituted are: stenosis of the external or internal os; cysts of the cervix; malpositions of the uterus. Some patients are helped by local applications to the cervical canal; others are relieved by replacing and supporting a displaced uterus. If such treatment fails and the patient's condition is precarious, the cervix should be dilated fully, under anesthesia, and a mixture of Churchill's iodin and carbolic acid applied to the cervical canal. Precariousness is indicated by the condition of the heart, as shown by the pulse rapidly increasing in rate and failing in strength. Three cases were reported to show the lines of treatment. In one, rapid emptying of the uterus was indicated; in another, that of a single woman, any interference seemed contraindicated; while in the third, even with drugs and rectal feeding, strength failed until thorough dilatation of the cervix was tried with the best results.

Western Surgical and Gynecological Association.

The ninth annual meeting will be held in Des Moines, Iowa, Dec. 27 and 28, 1899. The following papers will be presented:

1. Neglected Surgical Cases. W. B. La Force, Ottumwa, Iowa.
2. Osteomyelitis. Charles C. Allison, Omaha, Neb.
3. Cholelithiasis: Clinical Observations and Operations. A. H. Ferguson, Chicago.
4. Surgical Diseases of the Biliary Passages. B. B. Davis, Omaha, Neb.

4A. A Contribution to the Surgery of the Common Bile-Duct. J. E. Summers, Jr., Omaha, Neb.

5. Renal Calculus with Symptoms Extending Over Thirty-three Years: Operation: Cure. H. E. Pearse, Kansas City, Mo.
6. How to Get Union in Ununited Fractures. A. C. Bernays, St. Louis, Mo.
7. What Should Be Our Treatment of Fractures of the Anatomic Neck of the Humerus, Complicated by a Dislocation of the Head? W. Jepson, Sioux City, Iowa.
8. Acute Suppurative Arthritis of Children. James E. Moore, Minneapolis, Minn.
9. Congenital Hip-Joint Displacement. J. P. Lord, Omaha.
10. President's Address. H. C. Crowell, Kansas City, Mo.
11. Surgery in Relation to Persons of Advanced Age. Milo B. Ward, Kansas City, Mo.
12. Criminal Abortion. A. D. Wilkinson, Lincoln, Neb.
13. Improved Technic in Gynecic Surgery. Henry P. Newman, Chicago.
14. The Vaginal Route. O. Beverly Campbell, St. Joseph, Mo.
15. Notes on the X-Ray: Its Usefulness and Mistakes. J. Rudis-Jicinsky, Cedar Rapids, Iowa.
16. Oöphorotomy for Functional Nervous Diseases Occurring During Menstruation. D. C. Brockman, Ottumwa, Iowa.
17. Gynecologic Complications of Neurasthenia from a Neurologic Standpoint. John Punton, Kansas City, Mo.
18. A Case of Fibroma Uteri. D. W. Basham, Neal, Kan.
19. Traumatic (?) Aneurysm. A. F. Jonas, Omaha, Neb.
20. The Longitudinal Wire Suture in the Radical Operation for Hernia. M. L. Harris, Chicago.
21. Cystosarcoma Occurring Simultaneously in Both Ovaries. Van Buren Knott, Sioux City, Iowa
22. Operable and Inoperable Cases of Carcinoma Uteri. Jacob Geiger, St. Joseph, Mo.
23. The Tolerance of the Gravid Uterus, with Case. H. C. Young, Bloomfield, Iowa.
24. A Peculiar Case of Ectopic Gestation. E. Hornibrook, Cherokee, Iowa.
25. Hematoma of the Vulva and Vagina. A. L. Wright, Carroll, Iowa.
26. Trauma as an Etiologic Factor in Tuberculosis of Bones and Joints. George R. Highsmith, Carrollton, Mo.
27. Some Laparotomy Cases Presenting Unusual Features. G. G. Cottam, Rock Rapids, Iowa.
28. Pathologic Uterine Discharges. W. J. Williams, Adel, Iowa.
29. Oöphorectomy. J. W. Cokenower, Des Moines, Iowa.

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Original communications are accepted with the understanding tha they are exclusively contributed to this Journal.

SATURDAY, DECEMBER 23, 1899.

TO THE MEMBERS OF THE MEDICAL PROFESSION IN THE UNITED STATES.

The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the Bill for the "Further Prevention of Cruelty of Animals in the District of Columbia," which he has so strenuously and misguidedly advocated in the last two Congresses. It is Senate Bill No. 34. Twice the Committee on the District of Columbia has, also unfortunately and misguidedly, reported the bill with a favorable consideration. It is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals, but the real object is twofold: 1, to prohibit vivisection and, 2, to aid the passage of similar bills in all the state legislatures.

It hardly needs to be pointed out that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the Government, the Army, the Navy, and the Marine-Hospital Service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease.

The inestimable value of these scientific researches as to the prevention and cure of disease among human beings it is superfluous to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done.

As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert itself to the utmost to defeat this most cruel and inhuman effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that *every physician* who shall read this appeal shall *immediately* communicate especially with the senators from his state, shall also invoke the aid of the representatives from his or other districts in his state, and by vigorous personal efforts shall aid in defeating the bill.

It is especially requested also that all of the national, state and county societies, at their next meeting, take action looking toward the same end. If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all those who can give any aid.

The Committee on the District of Columbia consists of Senator James McMillan, Chairman, and Senators J. H. Gallinger, H. C. Hansborough, R. Redfield Proctor, J. C. Pritchard, Lucien Baker, C. P. Wetmore, C. J. Faulkner, Thomas S. Martin, Wm. M. Stewart and Richard Kenney. Personal letters may be addressed to them or to other senators. Petitions should be addressed to the Senate of the United States.

W. W. Keen, M.D.
President American Medical Association.

HEADACHE.

The conscientious physician will never be satisfied with a diagnosis of headache. He knows that this condition is merely a symptomatic manifestation, and, strictly considered, never an independent disease. Careful inquiry and thorough investigation will disclose the fundamental disorder with certainty in many instances, and with probability in a further large number. In a small number the causative condition may be less apparent, or for a time may elude detection. As the diagnosis is the guide to treatment, the importance of recognizing the true state of affairs must be self-evident.

In our modern civilization there is, perhaps, no more potent single cause for headache than eye strain, and this may result from either refractive error or muscular imbalance. The recognition of this important fact is largely due to the intelligent observation, and its more or less general acceptance to the persistence of American physicians, and if it be wondered by a stranger why so many Americans, including children, use glasses, the explanation will be found in the progressiveness and the skill of our oculists, with resulting greater freedom from eye-strain headaches. These facts can not be too fully and too widely known. They were pointed out years ago by Drs. Weir Mitchell and Dyer, of Philadelphia, and they have since been amply confirmed and ably championed by a host of others. Intraocular disease, also, may give rise to headache, as, for instance, glaucoma and diseases of the retina, inflammatory, and otherwise.

Perhaps next in importance to eye strain as a cause of headache comes derangement of gastro-intestinal function, possibly acting through autointoxication. Headache of such origin has long been recognized, and has always received due consideration. Yet a common cause of headache is the disorder that for want of a better name we designate subacute rheumatism, but that probably has little to do with acute articular rheumatism, although the latter also may be attended with headache, which may be intense, and is probably toxic, involving the brain and its membranes, like the same manifestation attendant on other infectious diseases. Somewhat related to the headache of subacute rheumatism is that of neuralgic origin. This is sometimes wanting in the usual features of neuralgia, for instance, the circumscribed, linear or radiating pain of paroxysmal occurrence or exacerbation. Migraine is often of this variety, and is sometimes of hemicranic type. Some forms of migraine, also, are probably of cerebral origin, resulting from functional disturbance of the sensory cells of the cerebral cortex. It is this analogy that lends plausibility to the view that a certain relationship exists between migraine and epilepsy, the one being considered the sensory, the other the motor, expression of an explosive central neurosis.

Headache may further be of gouty or lithemic origin, or due to more nearly mechanical conditions, such as traumatism, cicatrices, disease of the scalp, the bone, the brain, and its meninges, inflammatory, hyperplastic or neoplastic, and disease of adjacent organs, as the nose and its accessory sinuses, the pharynx, the ear, and the teeth. It may be due to metallic poisoning, as with lead or mercury, to uremic or diabetic poisoning, to altered states of the blood or of the circulation, as anemia and hyperemia, local or general. Insolation may at times be a causative factor. Headache is sometimes observed in association with uterine and ovarian disease, but the connection is not clear. It may attend malarial infection also, and then assume a periodic character. The possibility of syphilis should never be overlooked in any case of headache. Neurasthenia is sometimes attended with headache, although a sense of fulness or of tension, or of soreness is more common. The patients often speak of distress and misery in the head. Those who live in poorly ventilated rooms often suffer from headache, and those compelled to sleep in such rooms frequently exhibit morning headache especially.

To summarize briefly then, it may be said that headache is dependent on a variety of toxic or mechanical causes. The former may be introduced from without, as mercury and lead, be secondary to various infectious processes, or be generated within the body in consequence of deranged metabolism, as in uremia and diabetes. The mechanical causes include principally local disease, which may be of the most diverse kind. What is designated reflex headache is probably the result of a complexity of factors, of which the nervous (reflex) influence is but one.

This is not the place to dwell on the differential diagnosis of the various forms of headache, nor to discuss at length questions of treatment. It is sufficient here and now to have referred to many of the conditions from which such a common and at times troublesome symptom as headache may arise, and the offending cause, if carefully looked for, will seldom escape detection. As already intimated, the diagnosis once made, the treatment will suggest itself.

One caution, finally, should be uttered, namely, that headache may be the result of a variety of co-operating causes, one or another of which may predispose to the action of the others, and relief will be afforded only when all are corrected. Further, it is possible that a headache-habit may be established, when it will be necessary to break this up, after removal of the cause, before a cure will be complete. The susceptibility may, however, persist for a long time, and recurrences will then take place more readily than under ordinary conditions.

MIXED INFECTION IN PULMONARY TUBERCULOSIS.

The different opinions in regard to mixed infection in pulmonary tuberculosis and phthisis may be summarized under the following heads: 1. Mixed infection is without any special influence on the phthisical processes—etiologic unity (v. Leyden, Strauss, Frankel and others). 2. Phthisis is always the result of mixed infection—etiologic duality (Maragliano and others). 3. Severe manifestations of phthisis are always and wholly, or at least in part, the result of mixed infection (Koch, Ziegler, Weichselbaum, and others). Sata[1] has made careful bacteriologic and histologic examinations of a number—twenty-one—of suitable cases, in nearly all of which the clinical symptoms had been recorded, in order to establish to what extent the exudative and necrobiotic processes are modified by mixed infection, in what stage of pulmonary tuberculosis it usually sets in, if at all, and to what degree tubercle bacilli only may cause phthisical phenomena. Twelve cases of pronounced mixed infection were found; streptococci predominated in 6, in 4 pneumococci, in 1 staphylococci. A number of other bacteria were also isolated by cultural methods, such as diphtheroid bacilli, a form of which is given the special name of "Pseudodiphtheria bacillus pulmonalis" because of certain cultural peculiarities, the colon bacillus, capsulated bacilli, bacillus lactis aerogenes, etc., but not many of these were found in such connection with the tissue changes that they could be regarded as co-operative in inducing the lesions presented. Sata very properly lays great stress on the number and the situation of the different organisms in the lesions in his estimate of their pathogenic rôle, not being content with merely securing the germs in pure culture. The observations of Sata would have gained still further in value had he also bacteriologically studied the other organs and the blood of his cases.

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[1] Ueber die Bedeutung der Mischinfektion bei der Lungenschrrendsucht. III, Supplement, Ziegler's Beitrage, 1899.

As it stands, the principal results of this investigation are that in pulmonary tuberculosis other bacteria than the tubercle bacillus may enter the lungs, localizing first in the contents of the existing cavities. While here their toxins may act not only on the surrounding tissues, but also on the whole body. The organisms of the secondary infection may cause a disintegration of the wall of the cavities and, either alone or in conjunction with the tubercle bacillus, they may induce a pneumonia in the vicinity. Through aspiration, more or less extensive bronchopneumonic foci may develop in the healthy parts of the lung. Toxemia and general infection may result. Mixed infection generally presents itself as a pneumonia of varying extent in the lesions of which streptococci, staphylococci, or pneumococci are found by histologic methods in large numbers, together with, but also without tubercle bacilli. It is important to note that mixed infection generally takes place after the disintegration of the purely tuberculous tissue begins. Only closed cavities remain free from other bacteria for a longer time; when communication with the external air is established, foreign bacteria quickly enter, but the real mixed infection does not begin until the bacteria invade the walls and cause necrosis and pneumonia in the vicinity, or at a distance due to aspiration.

The so-called phthisis is probably a pure tuberculosis only in the beginning; when advanced there is mixed infection and a large part of the destructive phthisical changes are the result thereof. There is also good reason to believe that the high fever in phthisis is the result of mixed infection.

Sata was also able to show some of the evil influences of mixed infection by means of suitable animal experiments. Occasionally results were obtained which indicated that mixed infection does not always aggravate phthisical processes, but by hindering the growth of the tubercle bacillus changes are induced which favor local healing. While Sata would regard the aspiration bronchopneumonia in phthisis as most frequently a mixed process, due to the distribution of the contents of the cavities, which contain tubercle bacilli as well as other organisms, Prudden,[2] from experimental studies, holds that in the case of rabbits' lungs, which are already the seat of an extensive tuberculous consolidation and necrosis, the intratracheal injection of cultures of streptococcus pyogenes is followed not by an "increased amount of exudative pneumonia, but, in many cases, by the extensive development of cavities."

There is, taking it all in all, good evidence to justify the reversal of Niemeyer's dictum: "that the greatest danger for the most phthisical is that they may become tuberculous," to the effect that the greatest danger for the tuberculous is that they may become phthisical, that is that mixed infection may take place. This proposition probably merits more attention than it is receiving from the preventive and therapeutic standpoint.

RED COLORATION OF FECES SIMULATING THE PRESENCE OF BLOOD.

Blood may appear in the stools under several conditions, such as the presence of hemorrhoids, of ulceration, of the hemorrhagic diathesis, the rupture of an aneurysm, etc., and while the source of the hemorrhage may at times be obscure, the recognition of the blood is as a rule not difficult. A possible source of error is, however, pointed out by Carter[1], who reports three cases, one of chronic valvular disease, febrile toxemia and acute cystitis, one of typhoid fever, and one of acute pneumonia, in which the intestinal discharges, while in general golden brown in color, presented streaks of a bright-red color, which became intensified on standing and exposure to air. Careful examination, however, proved the discoloration not to be due to blood, nor to biliverdin or bilirubin, but to a substance closely related to stercobilin, the normal coloring matter in feces.

TONSILS AS PORTALS OF INFECTION.

There is increasing reason to believe that the tonsils are more commonly than has hitherto been thought the portals for the entrance of various infections. That this should be so is favored by the situation of these organs, their irregularity of surface, and their adenoid constitution. Of their own susceptibility to disease, the frequency of quinsy and allied disorders, particularly in early life, is abundant evidence. There are now on record a not inconsiderable number of cases in which tonsillitis has been attended with or followed by various complications and sequelæ. Some of these were discussed at a recent meeting of the N. Y. County Medical Association, when several cases of endocarditis were attributed to infection through the tonsil[2]. It is quite generally accepted that rheumatism may arise in this way, and, if rheumatism, then endocarditis. The relation is rather difficult of establishment, but the detection of the same exciting agent in the tonsils and in the other morbid lesions should be considered *prima facie* evidence, though perhaps not conclusive. In any event, no harm, but much good, can come from greater attention to a possible source of danger, and it will be a wise precaution to treat vigorously all diseases of the tonsils when they exist, and to use all proper prophylactic measures to prevent infection.

MULTIPLE BENIGN SARCOIDS OF THE SKIN.

Boeck[3] describes a unique case, which he designates as multiple benign skin-sarcoid, in a policeman, 36 years old. Some enlargement of various groups of superficial lymphatic glands, a moderate leucocytosis and an eruption of smaller and larger hard nodules in the skin of the head and face, and on the extensor surfaces of the trunk and the extremities were observed. The nodules varied in size from that of a hemp seed to a bean, and were irregular in form; they involved all parts of the skin, being movable with it. At first the nodules were pale red, then they became bluish-livid, finally yellowish or brownish. The growth of the tumors was extremely slow and extended over years; in the older the central part becomes atrophic and shrunken; eventually the growths disappeared wholly—under the use of arsenic and iron—leaving an evident reduction of substance in the skin. Boeck compares his case, and he recalls having seen two more like it, with the disease described by Hutchinson as "Mortimer's malady," in which, however, there are no glandular enlargements and no eruptions in the face. The histologic appearances in Boeck's case were also peculiar. It concerns a perivascular connective tissue growth composed of epithelioid cells and a few giant cells of the sarcomatous type; all elastic elements disappear in the tumor areas; the tumor tissue degenerates rapidly, however, and there is formed a network of branching connective tissue cells. Hence the tumors appear related to the sarcomas, although the pseudoleucemic growths in the skin described by Arning and by Max Joseph are also recalled. Boeck finds it not unlikely that future observations may show the disease he describes to be in some relation to pseudoleucemia.

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[2] Concurrent Infections and the Formations of Cavities in Acute Pulmonary Tuberculosis: An Experimental Study. N. Y. Med. Jour., July 1, 1894.

[1] Lancet, Nov. 25, 1899, p. 1432; Journal, Dec. 16, 1899, p.1544.

[2] Emil Mayer: Journal, Dec. 9, 1899, p. 1491.

[3] Norsk Magazin f. Lagevidenskaben, 1899, lx, 321.

"DIVINE HEALING" HOMICIDE.

A "divine healer" in Montana claims to have, by silent prayer, caused the death of one who was arguing with him and whose demonstrations, he claims, had become threatening. This may be taken as an additional argument for the regulation, or rather suppression, of these irregular practitioners. The coroner's verdict, it is true, found that the decease was due to heart disease, but the reverend healer still claims that it was his influence with the Deity that caused it. If "divine healers" in Montana are going to be thus homicidal in their claims, it is time to look out for them. An indictment that so and so "did maliciously and feloniously assault, slay, injure, kill, murder," etc., with "silent prayer," stated with all the tautology and surplusage of the law, would seem to be next in order. At least, such an indictment ought to be valid before some of our judges who have adopted and are advocating Dowieism, "Christian Science," and other kindred humbugs.

SUPERSTITION AND THE PLAGUE.

An interesting fact to zoöphiles and vegetarians will perhaps be found in the plague records of India. The Hindoos, as is well known, are largely vegetarians, and their reverence for animal life is excessive. Like zoöphiles elsewhere, their regard for human life is altogether a secondary matter. Not only did these vegetarians furnish the main food of the pestilence, their lesser resisting power in all probability assisting their unsanitary surroundings, but they actively opposed the necessary measures to prevent its spread. Whatever has been done in the way of sanitation was resisted and the infected and infection-carrying vermin were protected to the limits of their ability. "All attempts to capture the rats were fiercely opposed," says an official report, "and picking up a few sick pigeons almost caused a riot." If the vegetarian and zoöphilist superstitions of the Asiatics did not exist, the plague would have had less hold, and could have been more easily controlled.

A NOVEL THEORY OF BALDNESS.

The cause of masculine baldness has been the subject of much speculation, and a contributor in this issue of the Journal offers what is, to us at least, a new theory. He assumes that the masculine thorax is less mobile than is that of women, and hence there is at the apical portion of the lungs a greater stagnation of residual air. This, he holds, is the more likely to become impure and to inadequately fulfil its functions of oxygenating the blood. Thus toxins left in the imperfectly oxygenated blood find their point of least resistance in the poorly nourished scalp lying over the occipito-frontal aponeurosis; hence, the baldness. The author's theory rests on certain apparently unconscious assumptions on his part: 1, that baldness is a purely masculine defect, and 2, if so, to account for it we have to find only one possible masculine pathologic peculiarity. Alopecia is not fashionable in the female sex, and if it exists it is quite certain to be concealed, hence we can not say how far his first assumption is valid. From the prosperity of the false hair trade one might legitimately doubt its universal correctness. As to the second assumption, it appears to involve a logical fallacy, a sort of *cum hoc, ergo propter hoc* mode of reasoning, even admitting that its premises are correct. There may be a little larger proportion of residual air in the apex of the male lung, and there often is a lack of residual hair on the male scalp, but the association between the two would hardly occur to us unless it might be from some ultra-Anglican mispronunciation. The author's arguments do not seem to us to establish it. As he says, the experience of one investigator is generally insufficient to establish a theory. The results of his treatment as reported by him are, however, encouraging, and it may be he has suggested a practical fact, though his reasons given for it may not be wholly accepted.

TREATMENT OF CHRONIC ARTICULAR DISEASE BY MEANS OF SUPERHEATED AIR.

For a time after its modern introduction, a few years ago, the treatment of various chronic diseases of the joints by means of hot air enjoyed quite a considerable vogue. As time went on, however, the novelty subsided, and the method has almost fallen into innocuous desuetude. A number of persistent investigators have, however, continued its employment with highly satisfactory results, and the report of the observations, with the exhibition of the patient, made at a recent meeting of the Philadelphia County Medical Society, by Dr. Henry Tucker, should at least revive interest in the subject. The patient was a young woman, perhaps 25 years of age, who presented marked and wide-spread lesions of rheumatoid arthritis, and in whom improvement, that can in moderation be designated "remarkable," was effected after three months' treatment, forty-five exposures in all, at temperatures of 240 to 270 F., being made. It is not alone interesting that the patient had her ability to walk about restored, and free movement of the digits, but it is especially important from a practical point of view that improvement did not manifest itself until after the twelfth treatment. In fact, the first exposures were attended with an aggravation of the local symptoms, and if the treatment had been suspended at this point a failure instead of success would have been the result. As Dr. Tucker pointed out, this is the common experience, and it therefore behooves those who use this mode of treatment which at one time promised to be a boon to sufferers from several forms of chronic disease of the joints, not to relax their efforts if relief does not attend or follow the first exposures, but they should persist until they either obtain the desired result or convince themselves that the particular case in hand is insusceptible to the influence of hot air treatment. While we think it doubtful whether well-developed cases of rheumatoid arthritis can be finally cured by this means, still such measure of improvement as was effected in the case under consideration is worthy of all of the time and effort expended on it, even should the treatment require continuation for years.

MILITARY PROJECTILES.

The Hague convention established certain rules regarding the use of bullets, binding on the signatory powers, but it acted on what was then imperfect knowledge, while there is yet much to be learned in regard to the effects of military projectiles. Any experimental investigation that throws light on the subject is therefore welcome, as it is capable of being even more instructive than actual military experience. Each source of knowledge has its advantages, and the present happenings in widely different portions of the globe are furnishing us expensive practical observations of modern gunshot injuries in war. In the *Lancet* of December 2, Drs. Arthur Keith and Hugh M. Rigby report a series of experiments with the English service bullets as compared with the Mauser projectiles, the ones in use by the Boers and Filipinos, and also the army revolver projectiles, the British Webley and the Mauser. They point out that there are two, possibly three, factors that control the destructive power of a bullet: 1, the momentum, and 2, its expansibility on contact. The contingent third factor is its spin on its own axis, which undoubtedly causes some of the debris found in wounds. They experimented on a cadaver specially prepared to afford sections, and on soap, which is a substance well suited to show the path of the projectile, as distinct from its explosive effects on enclosed fluids and its shattering action on brittle substances, like bone. Taking the Mauser as the unit, they find that the British service bullet, with its velocity and greater momentum, is 70 per cent. more destructive, while the Mark IV, or hollow-pointed, and the Dumdum are respectively twice and nearly six times as destructive in their effects. Cadaver experiments bore out these results very closely as regards mere flesh wounds, but when any of these bullets meets a bone, its destroying energy is multiplied, as is shown by their diagrams. The explosive effects on cavities—not necessarily closed ones—with fluid contents were also noted by experiments with plaster of Paris before it had hardened and was practically of the consistency of the brain. This was placed in skulls or in boxes, and the effect noted. The authors found that in this respect and in their bone-shattering qualities the open-nosed bullets like the Dum Dum were effective. The ratio in destructive effects on soft tissues, counting the Mauser as unity, are for the English service bullet, Mark II, 1.7; Mark IV, 2; and the Dumdum, 5.4. The experiments are interesting and valuable as showing the comparative effects of the several projectiles at short range, but do not cover the possibilities of wounds made at longer range. They conclusively show that the Mauser is a comparatively ineffective weapon, a fact already demonstrated in actual military surgery. The authors call attention, however, to the fact that its projectile is very easily converted into a Dumdum, thus increasing its destructive power fivefold.

WHOOPING-COUGH AND RICKETS.

The etiologic relation between precedent whooping-cough and gastrointestinal disease and succeeding rickets, as observed by Lowman and published in the JOURNAL[1], is worthy of more than passing attention. The effects of rickets are more often observed in America than the disease itself, for the reason that physicians are not commonly on the lookout for it, and that it occurs insidiously and often without the cardinal symptoms. The cases reported by Lowman were all in well-to-do families and among properly fed and housed infants. It was perfectly clear that the disease was directly due to the depressing effects of the prolonged cough, and to the disturbance of nutrition that accompanies whooping-cough, and in some cases to the limitation in diet made necessary by disease of the stomach and intestines. Attention should be directed to this important and serious possible sequel of whooping-cough and of intestinal indigestion. The relation has not heretofore been widely recognized, nor has the possibility of the occurrence of rickets under good hygienic conditions been sufficiently realized. The treatment of the disease by phosphorus, fresh air, sunshine and carefully selected diet is so easy and so efficient, once the condition is recognized, and the sequels to be avoided are so terrible and so enduring, that every physician must be on the alert to perceive the conditions favoring the supervention of rickets on the depraved nutrition accompanying some acute diseases of infancy. Also, as was pointed out in the paper in question, the malign influence, in some cases, of the starchy artificial infant-foods can not be overlooked as a predisposing factor in the production of rickets. Little light can be thrown on the intimate disturbances of metabolism that constitute rickets, but enough is positively known of the circumstances under which it arises to be certain that a diet poor in proteids, fats and salt, along with lack of pure air and sunshine, favors its production. That much is well known, and the new fact to be learned is simply that those favoring dietetic conditions that occur in whooping-cough or other depressing malady may determine an attack of rickets in hygienic surroundings that otherwise are of the very best.

SCHOOL TEACHERS AND TUBERCULOSIS.

There is a movement on foot in one of our western cities to remove every teacher from the public schools, who is affected with tuberculosis. It seems to have the almost universal endorsement of the local profession, which is apparently in accord with the most recent doctrines or theories of the contagiousness of consumption. Some go further, not unreasonably, and propose to weed out all infected children, even if it is necessary to furnish separate schools for them. There is no doubt that an infected pupil may be a much greater danger to the rest than a consumptive teacher, who is more amenable to sanitary regulations, and does not as a rule have to come into such close contact with her pupils as would render her personally dangerous to them. The only real danger from a consumptive teacher is room infection, assuming that he or she takes reasonable care to observe ordinary sanitary precautions. "A teacher who carelessly expectorates on the floor," says one of the physicians interviewed, "is a menace to the life of every scholar in the school." Such a person, we would say, is unfit to be a teacher, whether consumptive or not. The chance of infection of well lighted and ventilated school rooms by any decent and intelligent adult consumptive ought to be slight, but there are thousands of chances for it to occur to a certain extent by careless children, many of whom it is reasonably certain carry with them the germs of disease. The amount of danger thus incurred is a question we would not care to decide, but it is the principal danger that exists or ought to exist. Whether it is an altogether unavoidable one, without the use of the most rigid measures of inspection and isolation, is another difficult question, which ought to be considered.

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[1] JOURNAL, November 25, p. 1358.

ELASTIC TISSUE UNDER NORMAL AND PATHOLOGIC CONDITIONS.

Weigert's recent specific stain for elastic fibers has rendered simple and easy the study of this constituent of various organs. Melnikow Raswedenkow[1] has made extended investigations of the elastic tissue under both normal and abnormal conditions. In normal organs the blood-vessels are most richly and constantly endowed with elastic elements which appear in early embryonal life, and on account of their elasticity and resistance they efficiently support the contractile tissue and aid it to carry out its mechanical functions. The lungs, which are constantly in motion are very rich in elastic fibers, as is also the spleen, which has the power to change its volume; the same holds true of the diaphragm, the tongue, the large lymph vessels and the intestinal tract. The glandular parts of the liver, the pancreas, etc., organs which remain quiet, are comparatively poor in elastic elements. The amount of elastic tissue increases with age; in the physiologic atrophy of old age the elastic fibers increase in inverse proportion as the specific cells disappear. This is to be interpreted as an adaptive process calculated to maintain the equilibrium of the remaining cells under the changing mechanical conditions. In the walls of the blood-vessels the increased amount of elastic tissue in old age tends to maintain the pressure of the blood at a fixed height as the contractility of the muscular coat diminishes. Under pathologic conditions elastic tissue is characterized on the one hand by its resistance to morbid agents, and on the other by a tendency to increase in amount, especially under such conditions as make this increase a useful one. Elastic tissue is easily destroyed in the suppurative processes, when it suffers a fate similar to that of all other tissue elements. In splenic infarcts the elastic fibers disappear first in the zone of leucocytic infiltration. In passive congestion elastic tissue increases in amount; here it is calculated to restore the disturbed circulation. In the functionless scars which replace destroyed tissue, as in tuberculosis of the lungs, elastic fibers may be completely absent. Atrophy of glandular organs, like the liver and kidney, in which fluids circulate, is associated with the new production of elastic elements. Tumors are generally poor in elastic tissue; they are useless structures, and hence there is no special necessity for elastic fibers. But in the sclerotic processes in the liver, kidney and myocardium the elastic tissue proliferates and tends to maintain the most desirable mechanical conditions. Thus in the heart wall elastic fibers are better calculated to prevent cardiac aneurysm as the consequence of a local fibrosis than pure connective tissue. In this case the adaptive nature of the increase in elastic material is clearly manifest. It will thus be seen that elastic tissue, under normal as well as pathologic conditions, serves as a support of the specific elements of the organs and promotes the performance of their normal functions.

Medical News.

IN DENVER, Colo., the National Home for Consumptives was dedicated December 10.

AT A cost of $25,000, a new hospital—St. Anthony's—has been opened in Oklahoma City, O. T.

DR. FRANK C. AUTEN has tendered his resignation as superintendent of the Illinois Hospital for Criminal Insane, at Chester.

THE NEW Chester County (Pa.) Insane Asylum has been completed. The cost of the building and furnishings was $120,000.

THE BOARD of Health of Wilmington, Del., has passed an ordinance prohibiting public funerals of patients who have died of diphtheria.

DRS. CHARLES ROGERS and Charles Clark, assistant superintendents of the Massillon (Ohio) State Hospital for the Insane, have resigned.

AN INSTITUTE for the special study of malaria has been established as a department of the St. Petersburg Institute of Experimental Medicine.

IT IS announced that an international antituberculosis congress is being organized, to convene at Naples next spring, with Baccelli for president.

A PHYSICIAN in McLean, N. Y., has been awarded $900 in a suit for $10,000, for medical services rendered a reputed millionaire of Cortland, N. Y.

THE CHIEF of the Boer military medical department is Dr. M. Reinhart, a German and graduate of Munich, author of numerous contributions to the German medical press.

PROF. W. W. KEEN, Philadelphia, president of the AMERICAN MEDICAL ASSOCIATION, will deliver the graduates address at the commencement exercises at Rush Medical College, Chicago, July 1.

WE LEARN that the *Southwestern Medical Record*, Houston, Texas, has consolidated with the *Texas Medical News*, Austin. This makes the fourth journal that has consolidated with the *News* since January, 1898.

ON DECEMBER 12, a jury in York, Pa., awarded damages of $1000 against two physicians of that city. It was alleged that a fractured limb was bandaged so tightly that gangrene supervened, and amputation was necessary.

THREE prominent officials at Constantinople have been banished on account of a conspiracy against the sultan, which was discovered and revealed, it is said, by "Dr. M., the sultan's private physician and medical attendant of the German embassy."

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[1] Ziegler's Beiträge, 1899, xxvi, 546.

The statue of the late Dr. William Pepper, which occupies a prominent site on the grounds of the Museum of Archeology, Philadelphia, was unveiled on December 20, the date which marks the opening of this new building of the University of Pennsylvania.

A general vaccination and revaccination has been urged in a circular issued by the Kentucky State Board of Health, December 12. More than 2000 cases of smallpox have occurred in sixty-two of the 119 counties of Kentucky during the past two years.

The assistant professor of obstetrics and gynecology at Rio Janeiro, Dr. A. R. Baptista, has been suspended for three months by decree of the *Ministro do justicia e negocios int.,* on account of neglect in keeping the records of the clinic and admitting outsiders to it without permission.

The Berlin university has published, by private subscription, the complete catalogue of the various theses sustained before it from 1810 to 1885, about 9690 in all, of which 7332 are medical. Strasburg's catalogue contains 576 titles, and Bonn's 2909, both published at the expense of the university.

Some of our exchanges in Belgium have entered on a campaign to limit the professional activity of professors in medical colleges to the education of medical generations, laboratory and research work, and leave patients and practice to the general practitioners; *à nous, praticiens, la clientèle,* is their watchword.

The Medical Institute of St. Petersburg will very soon erect a laboratory for the treatment of pest patients and for the manufacture of antiplague serum. The building will be located at Cronstadt and will be so provided that it can be surrounded by water at a moment's notice. Communication will be effected with Cronstadt by means of steam launches.

Cuba is to have a national medical congress next year. V. B. Valdés is president. The Cuban Mutual Help Association recently celebrated its twentieth anniversary with a literary and musical entertainment exclusively for physicians and their families. It proved such an interesting reunion that it will be made a regular annual feature of the Association henceforth.

Senator Spooner, December 13, introduced a bill in Congress for the establishment of a commission of public health, to be composed of a commissioner and a representative from each state and territorial board of health, the surgeon-general of the army and navy, the supervising surgeon-general of the marine-hospital service, to be known as the "National Commission of Public Health," and to be a bureau in the Treasury Department.

The case of the People vs. Dr. E. L. Shurley, Detroit, Mich., was finally settled in the circuit court, December 14. The judge dismissed the case, which was an action brought to recover a $50 penalty for failure of the defendant to report a case of pulmonary tuberculosis, previously commented on in our editorial pages. After hearing the testimony in the case, he took the ground that the statute does not specially mention consumption among the list of cases required to be reported, and said: "Whether consumption shall be classed as contagious is still a problem." Prosecuting Attorney Frazer says the decision will be accepted and no appeal made.

D. Osiris has endowed the Institut de France with funds for a triennial prize of $20,000, to be awarded for the most noteworthy work or discovery made during each three years in science, letters, art or anything that can serve the public welfare, "especially in the branches of the medical sciences." It can only be awarded to a native of France, except when an international exposition coincides with the date of its bestowal or the year or two following. Osiris has already placed in the hands of the syndicate of the French press, $20,000 to be awarded as a single prize for the most beautiful or the most useful work to be found at the coming exposition of 1900.

According to *El Progreso Médico,* Havana, the Anglo-Saxon race prides itself on its obedience to the law, "but in changing its medium it seems to have adopted customs contrary to its usual habits." This is in reference to the physicians from the United States who have settled in Cuba without complying with the legal requirements for practice. It also urgently appeals to the authorities to revoke the licenses granted by the Spanish to many charlatans and adventurers who are now practising in Cuba as legitimate members of the profession, under the shelter of the Spanish laws. It says that every practitioner should be required to present evidence of his ability and professional training, or be otherwise stricken from the list.

A few weeks ago the competitive examinations for the positions of internes occurred at Paris, with 333 competitors out of 580 candidates for the thirty vacancies. There were eighty vacancies last year. All the papers had been examined except eighty-eight, and these were in locked and sealed boxes at the Hôpital Beaujon, when one morning it was found that the room had been entered during the night, by the removal of a panel in the door; with a thermocautery, a hole had been drilled in each box and a quantity of nitric acid poured in, reducing the contents to a pulp. There is no clue to the perpetrators of the outrage, which annuls the present competition and renders another necessary, two or three months late. There have been rumors current for some time that these competitions were unfairly conducted and favoritism shown.

Prize in Military Surgery.—A gold medal, valued at $100, the design for which has already been drawn, will be offered by the Association of Military Surgeons of the United States, for the best essay on military surgery. The donor is Dr. Enno Sander, St. Louis, Mo., a member of the American Medical Association. Major A. C. Girard, the Presidio, San Francisco, Cal., is the chairman of the prize committee, to whom letters should be addressed for further information.

Medical Examination Papers in Pennsylvania.—Owing to the recent exposures in regard to the supposed fraud committed by the men who went before the last session of the Medical Examining Board of Pennsylvania, the Board has been making an investigation. It has decided that the state printer should no longer be permitted to print the papers. By an agreement made the presidents of each board will hereafter have entire charge of the questions from the time they are formulated until the time of examination. About thirty clues were followed, as a rule, without result. It was learned, however, that many so-called examination papers had been purchased by the students, and subsequently proved to be bogus. A new system of examination will hereafter be adopted, which provides that only one list of questions shall be printed; this is to be dictated to the students at the time of examination.

New Orleans.

THERE IS developing, in the city council, opposition to the meat inspection law on the ground that it is a source of expense to the city instead of increasing its revenue. Surely this is a penny-wise and pound-foolish policy.

PLAGUE QUESTIONS.

CONCERNING the *Willowdene*, arrived from plague-infected Santos, the Cotton Exchange has withdrawn its protest against admitting the vessel, expressing its confidence in the ability of the State Board of Health to properly safeguard the interests of the city. It is interesting to note a decision of the board's attorney, to the effect that it has no right to deny admission to the vessel, its powers being limited by law to its detention and disinfection. This decision is in sharp contrast with the action of the health authorities of Galveston and of New York City, who have assumed the authority to deny such admission.

Cincinnati.

DR. J. M. CRAWFORD, late consul to Russia, gave a lecture on the resources of the country, December 13, in this city.

DR. L. C. CARR, formerly of this city, now brigade surgeon, U. S. Vols., is seriously ill in Cuba, with pernicious malarial fever.

DR. E. GUSTAVE ZINKE is to lecture on "Uterus, Child and Placenta," before the Academy of Medicine, Springfield, Ohio, during the holidays.

AT THE meeting of the Board of Trustees of the Cincinnati Hospital, December 9, the resignations of Drs. C. R. Holmes and S. C. Ayers, from the visiting staff, were accepted, and they were appointed consulting ophthalmologists.

THE HYGEIA Medical College of Cincinnati, whose certificates to graduates the State Board of Medical Examiners refused to recognize, will have to close its doors, the court having sustained the Board and dismissed the Hygeia's petition on the ground that it discloses no cause of action.

Baltimore.

DR. CHARLES D. PARFITT, one of the resident physicians at the Johns Hopkins Hospital, has resigned, and will resume practice in Toronto.

THE HOME for Incurables has received a bequest of $5000, and the Union Protestant Infirmary $2000, by the will of the late Mrs. Elizabeth E. Bose, of this city.

DR. AND MRS. W. OSLER gave a large reception to the members of the Philippine party—Professor Flexner, Barker and others—at the Johns Hopkins Medical School, on the evening of the 16th.

THE BALTIMORE Medical College tendered its football team a theater party, recently, the team having defeated all the colleges with which it has played. A supper was served after the performance.

DR. HENRY C. SHIPLEY, recently convicted in the Carroll County Court, of forgery, has been pardoned by the governor, the application having been signed by the judge and attorneys in the case.

DR. CLARK, superintendent of the Second Hospital for the Insane, advocates the necessity of amending the lunacy law of Maryland, and favors a law for this state similar to that of New Jersey.

AT THE meeting of the Johns Hopkins Hospital Historical Club, December 11, Dr. Welch gave a masterly address on "The Arabic Period in the History of Medicine," which will be continued at the January meeting. Dr. McCrae read a paper on "Benjamin Jesty, an Early Vaccinator."

Chicago.

PLANS FOR installing a protestant minister as a permanent chaplain in the Cook County Hospital are being considered by Christian Endeavor workers.

A BALL—the German-American Charity—at the Auditorium, December 17, netted $15,000 for various charitable institutions of the city.

DR. GEORGE W. WEBSTER has been endorsed by the Chicago Medical Society as its representative on the Illinois State Board of Health.

THE COMMITTEE for the erection of a hospital for consumptives has added $1500 to the fund during the past week.

AT A charity ball, December 15, the committee of the Cathedral of the Holy Name netted $1000 for their endowed room at Mercy Hospital.

PROF. N. SENN delivered the annual address before the Cleveland (Ohio) Academy of Medicine, December 22, on "Fractures of the Skull."

SMALLPOX.

A case was discovered in Palatine, Ill., the 19th, and promptly isolated. The patient had been exposed while in Moline, Ill. The Health Department is investigating a rumor that a case from Dixon, Ill., was imported to Chicago and exposed a number of persons in a department store. It was reported that the sufferer was sent to Dixon after being taken ill.

MORTALITY STATISTICS.

The mortality for the past week was 481, being an increase of 65 over the number of deaths recorded during the preceding week, and 39 more than the record of the corresponding week of 1898. This increase is principally due to the severity of the weather, as is shown by the increased mortality, from the acute pulmonary affections, bronchitis and pneumonia, these two diseases showing an increase of about 30 per cent. over the preceding week. The relative proportion of deaths, males to females, shows an increased number of deaths among the latter sex, due to the larger number exposed by reason of "Christmas shopping."

Philadelphia.

A SILVER medal and diploma were awarded William R. Warner & Co., by the late National Export Exposition.

THE NEW gymnasium of the Jefferson Medical College was dedicated December 16. The recently formed athletic association held its first inter-class contest on that day, and much enthusiasm was shown by the students of the different years.

DECEMBER 15, a Bohemian tea was given at the Hotel Walton, for the benefit of the students' reading room and library of the Jefferson Medical College.

DURING THE past week the faculty, with the students of the senior class of Jefferson Medical College, were given a reception at the Art Club, by Dr. George E. de Schweinitz.

FOR THE Bureau of Correction, Councils has allowed one resident physician at a salary of $1050, and one new assistant matron at a salary of $360 a year.

THERE ARE now in the Philadelphia Hospital (Blockley), 3826 persons, 1005 in the hospital proper, 1386 in the department for the insane, 1218 in the out-wards, and 217 children on trial in homes.

THE FOLLOWING sums have been distributed by the executors of the estate of Henry Pfander, deceased: Jewish Foster Home and Orphan Asylum, $1,764.44; Jewish Hospital Association, $1,764.44; Jewish Maternity Association of Philadelphia, $882.22; Society of Hebrew Charities of Philadelphia, $882.22.

WILL'S EYE HOSPITAL.

In order to provide for a slightly larger income for the constantly increasing number of patients now being treated by the Will's Eye Hospital, the Board of City Trusts will petition the court to transfer to the hospital certain small estates the income of which has for some time been diverted to certain charitable purposes. By this means it is hoped that a larger amount of material may be obtained and the hospital increase its good work.

MORTALITY STATISTICS.

The number of deaths during the past week was 445, an increase of 33 over those of last week and a decrease of 36 from the corresponding period of last year. The deaths from all causes were as follows: apoplexy, 16; nephritis, 32; cancer, 16; tuberculosis, 46; diabetes, 4; heart disease, 33; influenza, 4; septicemia, 7; suicide, 3; sarcoma, 2. Infectious diseases: diphtheria, 154 cases and 26 deaths; scarlet fever, 65 cases and 2 deaths; typhoid fever, 32 and 3 deaths.

HOSPITAL FOR CONTAGIOUS DISEASES.

The movement set on foot several days ago toward establishing a pay hospital for contagious diseases seems to have assumed definite shape. At the meeting of the Board of Directors, December 16, the following officers were nominated:

president, Judge William N. Ashman; vice president, Edmund C. Hammersly; recording secretary, Dr. Clara T. Dercum; corresponding secretary, Dr. Edwin Rosenthal; treasurer, Dr. J. Madison Taylor; directors for three years, Dr. Frederick P. Henry, Mrs. Olive Pond Amies, Dr. George M. Gould, Dr. James Tyson, and Mrs. George M. Swett; for two years, George D. Widener. The committee on site was empowered to act at once and to seek measures so that work should begin on the building.

New York.

A REPORT comes from Kensico, in the adjoining county of Westchester, to the effect that a stage-driver and his whole family were made sick by drinking the water from a well into which some one had dumped a quantity of Paris green.

FIVE SURGEONS of the U. S. Marine-Hospital Service have left this port on their way to take stations at American consulates in European ports. This is a part of a new plan by which all vessels clearing for American ports are required to have a bill of health indorsed by one of these surgeons.

THE VARIOUS organizations of the druggists have agreed on the form of a bill to be presented at the coming session of the legislature, providing for shorter hours for drug clerks. It is said to be free from certain defects which led the governor to veto a somewhat similar one last session.

HOSPITAL INCORPORATION REFUSED.

The State Board of Charities, after a careful investigation, has disapproved the incorporation of the Emanuel Hospital and Dispensary of New York City. Many protests are received against the establishment of the institution, and the principal ground upon which the application was denied was the fact that the poor among the Jewish population in the district for which it was designed are already provided with ample facilities for charitable medical treatment.

CROTON WATER-SUPPLY.

For many months past there has been a good deal of complaint regarding the dirtiness of the Croton water-supply. The Board of Health has made repeated examinations of the city water, at short intervals, and while it maintains and has so reported officially to the mayor, that no pathogenic germs have been found in the water, it is recommended that a system of filtration be introduced. Dr. Charles F. Roberts, the sanitary superintendent, says that the sanitary condition of the water-shed is good, but the water is unpalatable, and causes much trouble in the laundry.

GLANDERS.

In the upper section of the city horse owners have been worried during the past week because of the outbreak of glanders in a large boarding stable. It is known that at least eighteen horses have died from the disease in one stable, and the fact that the human being may become infected by contact with the discharges has made the hostlers very anxious. Prompt measures were taken by the authorities to control the disease, as soon as it was reported, but as it occurred for the most part among the horses of storekeepers, one can not say yet how far the infection may have been carried.

PRIZES FOR ARCHITECTS.

The Tenement House Committee of the Charity Organization Society has offered four prizes, ranging from $500 to $100, to architects, for plans for improved city tenements. The first prize is for houses and lots of 50 by 100 ft., the second those 75 by 100, and the third for houses and lots of 100 by 100 feet, and a special prize of $100 is offered for the best plan for a house on a lot 25 by 100 feet. The plans submitted are to be exhibited in connection with the tenement house exhibitions, to be held this winter in New York and other cities. It is rather a curious fact that on the jury of award, which consists of seven members, there is not a single physician.

LEGAL LIABILITY OF A MUNICIPALITY FOR DISEASE.

One Margaret Hughes brought suit against Auburn, N. Y., for damages for the death of her daughter, claiming that her demise was the result of disease caused by a defective sewer adjoining the house. The court of appeals recently granted a new trial, the first one having ended in a verdict for the defendant. Judge O'Brien delivered the opinion, in which all his associates concurred with the exception of Judges Gray and Bartlett. He holds that the statute which permits actions for damages by reason of death caused by the wrongful act, neglect or default of another, has no application in such a case, and that no action against a municipality can be maintained by an individual for damages for sickness caused by the neglect of public officers to observe sanitary laws.

HARLEM HOSPITAL.

Although the Harlem Hospital, one of those under the care of the Department of Charities, is called on to do an immense amount of work, the authorities do not seem disposed to furnish better facilities. (See JOURNAL, December 16, p. 1562.) It has long been known that the hospital has outgrown its present quarters, yet for some reason—politics has been strongly hinted at—nothing is done, and the physicians and surgeons of the hospital are compelled year after year to do their work under a great disadvantage. Last week Dr. Dudley brought the matter to the attention of the Harlem Board of Commerce, and the board unanimously adopted a resolution, stating it to be the opinion of that body that the legislature should authorize the issue of bonds to the amount of $500,000 or more for immediate use in securing a new hospital building.

COMBINATION OF CHARITIES.

The recent proposition to combine the interests of the many charities of the city, already noted in the JOURNAL, turns out to be the revival of an old idea, but it seems to have met with more encouragement than heretofore. There are many difficulties in the way of its accomplishment, however, not the least of which is the fact that a large number of the hospitals are endowed institutions, and these endowments having been given for a specific purpose, legal complications would be almost sure to arise if these sums were made a part of a common fund. Mr. J. Harsen Rhoades, a gentleman well known for his knowledge of the workings of organized charity in this city, is mentioned as one of those who express themselves as believing that the plan is not only desirable, but feasible. It is thought that one of the great advantages of a consolidation of charities would be the ability to better control the dispensary abuses. As there are no less than 104 dispensaries, giving practically free medical treatment to one-third of the population of Greater New York, this result alone would offset certain disadvantages. But perhaps the most cogent argument in favor of this combination is that contributions to charity could be made more intelligently, and the donor would not be annoyed, as now, by constant requests for money from a large number of institutions, all clamoring for notice.

Canada.

(From Our Regular Correspondent.)

TORONTO, Dec. 16, 1899.

TORONTO WESTERN HOSPITAL.

Ever since the report on medical charity in the hospitals here, the Western has come in for adverse criticism. The reasons assigned for the difference in the average cost per patient at this hospital, in comparison with the others, viz.: $21.50 as against $15 at the General per charity patient, were that there were either less rapid cures in the former or else the patients were kept in the institution some time after they were well. Dr. Price-Brown, the laryngologist of the Western, in its defense, says, there is need for such a hospital at the district located, that since its opening not a single month has passed but applicants had to be refused for want of room, as many as thirty per month, for the last two years. The Doctor backs up his contentions for the Western with statistics taken from the Government reports for 1897 and 1898. Recently the opening of the new hospital took place, the building having been thoroughly remodelled.

MEDICAL SERVICE OF THE CANADIAN MILITIA.

One fact that appeals most intensely to those members of the profession who are also in the army and who have given some thought to medical military matters, is that at the head of that department of our government is a gentleman who had attained considerable eminence in medicine before embarking on the sea of politics—Dr. Borden. The general commanding our forces has also shown a decided appreciation of the uses and needs of the medical service, and has inspired those medical gentlemen in the militia with great hopes for its immediate betterment, although that term can scarcely be applied to that which has hitherto been a nonentity. It seems almost incredible that before July of this year, no system of rendering aid to the sick or wounded on service had official existence or recognition. There was a surgeon and an assistant surgeon but "no issue of supplies, no stretchers, no ambulances, no bearers, no training." There were, however, certain city regiments which had unofficially provided, at their own expense, some supplies, stretchers, etc., and had even trained a few bearers, but the department was not aware of their existence. There is to be formed, at once, an army medical service, which will consist of commissioned medical officers and the companies and field-hospitals as mentioned in the last JOURNAL.

LIQUOR AT STUDENTS' BANQUETS.

Our medical colleges and universities have all held their annual banquets; and there is now considerable adverse comment as to the use of liquor at these banquets, particularly at those of the medical. A writer in the lay press, who has evidently been at all of these functions, states that invariably the university dinners are conducted in an orderly and dignified manner, while too often the medical functions deteriorate into a maudlin orgy. This is altogether too harsh criticism for the medicos, simply because two or three of their number, in many cases boisterous freshmen, participating for their first time in this jollification, may become a trifle deranged from having imbibed a little more pale ale than is their custom. To one who has been intimately associated recently with the student body, this will carry no weight, for there is probably no finer body of medicos turned out annually from any other institutions than those which are graduated from our two leading medical schools.

THE CHILDREN'S HOSPITAL, TORONTO.

Mr. John Ross Robertson, the philanthropist who has done so much for this institution, and who continues to take a leading part in its governance, has just addressed a letter to all of the secretaries of the respective lodges of fraternal orders throughout Ontario, asking for a donation of $5 from each lodge; most of them are responding. There is now a debt of $30,000 on this, and in order to clear that off, Mr. Robertson has hit upon this plan.

London.

(From Our Regular Correspondent.

FOG AND DEATH-RATE.

LONDON, Dec. 2, 1899.

The serious effect of fog on the public health is well illustrated by the contrast between the death-rate of the month just closed, and that of ordinary years in London. November is generally reckoned one of the most trying months of the year in London, on account of the raw coast winds and dense sulphur-dyed, natural-wool atmosphere politely known as "fog." The past month has, however, been mild, sunny and singularly free from either rain or fog—although curiously enough a terrible, black-mist-avalanche descended on the city and paralyzed traffic for three days late in October, and as a result the death-rate for the month has stood at the phenomenally low figure of 17 to 17.5 per 1000, while the average for the entire year is from 18.5 to 19 per 1000. The mortality bills for the past week show that not a single death from smallpox occurred in the thirty chief towns of England, except in Hull, which had the unenviable notoriety of 22. Nearly 600 cases have now occurred in this great seaport, and the past week was the worst yet, both as to new cases and deaths.

SCHOOL-MEALS FOR UNDERFED CHILDREN.

Much disappointment is expressed over the refusal of the London School Board to adequately recognize the physical and physiologic basis of education in the way of providing school-meals for underfed children. In spite of the excellent results of the French and American experience in this direction, the bogy of "undermining parental responsibility" was too much for their nerves, and the able recommendation of positive action of the special committee was referred back to them with the request to submit plans whereby the admittedly desirable object of well-fed scholars might be obtained without the expenditure of public money.

SERVICE IN THE TRANSVAAL.

Other well-known medical names are announced as going to the front this week. Anthony Bowlby of St. Bartholomew's Hospital, Mr. Cuthbert Wallace of St. Thomas' Hospital, and Mr. Ernest Calverly are the surgeons, and Dr. Howard Tooth the physician of the staff of a field-hospital, fitted out for special service, which will be despatched to South Africa next week. Nothing but words of praise are being received as to the efficiency of the medical service with Lord Metheun's column, and indeed with the entire body of troops in the field. One item certainly speaks for itself, and that is the extremely low mortality among the wounded, still below 3 per cent., which, even crediting the clean wounds of the Mauser bullets with everything that has been claimed for them, means "pretty decent surgery" under the roughest of field conditions, by the army medical corps. The general health of the men remains excellent in spite of the undesirable frequency of either inadequate or polluted water-supplies in the towns and camps of both Cape Colony and Natal. A certain amount of dysentery of the mild type and a few cases of enteric fever complete the disease-roll. So much is the last-mentioned disease dreaded in camp, that it is stated that nearly 70 per cent. of all the troops just sent out to South Africa have submitted to protective typhoid inoculation. So we may have an opportunity of studying the value of this serum on a most extensive scale.

PRESIDENT OF ROYAL SOCIETY.

The profession has again been honored by the election of one of its great leaders, Lord Lister, to the distinguished post of president of the Royal Society, for a second term. In his anniversary address before the Society, this week, Lord Lister dwelt at some length upon the success of M. Haffkine in his preventive inoculations against both cholera and the plague reported by him before one of the regular meetings at the Royal Society. He regards it as practically established that in the case of the plague, the case mortality had been reduced 50 per cent. by the inoculations, while at the same time the number of those attacked among inoculated subjects was greatly reduced, as compared with the unprotected portions of the community. In cholera, the percentage absolutely protected by inoculations was much greater, but for some curious reason the mortality among the few actually attacked was almost as great as in unprotected individuals.

NEW CANCER LABORATORY.

A good example is almost as contagious as a bad one, and the enterprise and foresight of the State of New York in establishing a cancer laboratory, under the guidance of Dr. Roswell Park, Buffalo, N. Y., is bearing excellent fruit in widely scattered quarters. The quarterly court of governors of the Middlesex Hospital, this week, formally sanctioned the establishment of a cancer laboratory in the new cancer wing of the hospital, at an outlay of some $3000 and an annual expenditure of some $3500.

Association News.

Competition for the Senn Medal.

At the meeting of the Surgical Section of the AMERICAN MEDICAL ASSOCIATION, held June 4, 1897, Dr. Nicholas Senn offered to donate annually a gold medal of the value of $100 for the purpose of stimulating surgical research. The offer was accepted. The committee for this year, consisting of Drs. W. L. Rodman of Philadelphia, A. J. Ochsner of Chicago, and H. Horace Grant of Louisville, desire to direct attention to the following conditions governing the competition:

1. A gold medal of suitable design is to be conferred upon the member of the AMERICAN MEDICAL ASSOCIATION who shall present the best essay upon some surgical subject.

2. This medal will be known as the Nicholas Senn Prize Medal.

3. The award shall be made under the following conditions: *a*. The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. *b*. All successful essays become the property of the ASSOCIATION. *c*. The medal shall be conferred and honorable mention made of the two other essays

considered worthy of this distinction, at a general meeting of the Association. *d*, The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. *e*. The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1898.

All communications should be addressed to Dr. W. L. Rodman, Chairman, 1626 Spruce Street, Philadelphia.

Association Committees.

The following committees have been appointed since the last meeting of the Association.

Committee on National Legislation.—H. L. E. Johnson, Washington, D.C., Chairman; William H. Welch, Baltimore, Md.; William L. Rodman, Philadelphia, Pa.

Committee on Tuberculosis.—Norman Bridge, Los Angeles, Cal., Chairman; W. A. Evans, Chicago, Ill., Secretary; Farquar Ferguson, New York City; Paul Paquin, Asheville, N.C.; J. B. Elliot, New Orleans, La.

Committee on Revision of By-laws.—E. Eliot Harris, New York City; Dudley S. Reynolds, Louisville, Ky.

Committee on Revision of Pharmacopeia.—George F. Butler, Chicago, Chairman; H. A. Hare, Philadelphia, Pa.; W. B. Hill, Milwaukee, Wis.

Committee on Transportation.—H. L. E. Johnson, Washington, D.C., Chairman; C. A. L. Reed, Cincinnati, Ohio; I. N. Love, St. Louis, Mo.

Committee on Award of Association Medal.—George M. Gould, Philadelphia, Chairman; E. Fletcher Ingals, Chicago, Ill.; T. W. Huntington, San Francisco, Cal.

Committee on Award of N. Senn Medal.—Wm. L. Rodman, Philadelphia, Chairman; A. J. Ochsner, Chicago, Ill.; H. Horace Grant, Louisville, Ky.

Rush Monument Committee.—James C. Wilson, Philadelphia, Chairman; Henry D. Holton, Brattleboro, Vt., Treasurer.

Committee on Reorganization of Army and Navy Medical Corps.—Thomas H. Fenton, Philadelphia, Chairman.

Alabama—J. C. LeGrand, Birmingham.
Arizona—W. V. Whitmore, Tucson.
Arkansas—Claiborne Watkins, Little Rock.
California—George Chismore, San Francisco.
Colorado—J. N. Hall, Denver.
Connecticut—J. Francis Calef, Middletown.
Delaware—Oliver D. Robinson, Georgetown.
District of Columbia—C. W. Richardson, Washington.
Georgia—James B. Baird, Atlanta.
Florida—J. Harrison Hodges, Gainesville.
Idaho—E. E. Maxey, Caldwell.
Illinois—H. N. Moyer, Chicago.
Indiana—John H. Oliver, Indianapolis.
Indian Territory—B. F. Fortner, Vinita.
Iowa—T. J. Maxwell, Keokuk.
Kansas—Charles Gardiner, Emporia.
Kentucky—William Bailey, Louisville.
Louisiana—F. W. Parham, New Orleans.
Maine—E. E. Holt, Portland.
Maryland—Clotworthy Birnie, Taneytown.
Massachusetts—H. D. Arnold, Boston.
Michigan—A. W. Alvord, Battle Creek.
Minnesota—Walter Courtney, Brainerd.
Mississippi—R. E. Jones, Crystal Springs.
Missouri—Walter B. Dorsett, St. Louis.
Montana—C. K. Cole, Helena.
Nebraska—Robert McConaughy, York.
Nevada—H. Bergstein, Reno.
New Jersey—S. M. Halsey, Williamstown.
New Hampshire—Charles R. Walker, Concord.
New Mexico—G. S. Easterday, Albuquerque.
New York—Nelson M. Henry, New York City.
North Carolina—George W. Long, Graham.
North Dakota—R. D. Campbell, Grand Forks.
Ohio—Rufus B. Hall, Cincinnati.
Oklahoma Territory—J. B. Rolater, Oklahoma City.
Oregon—A. C. Smith, Portland.
Rhode Island—F. L. Day, Providence.
South Carolina—Manning Simons, Charleston.
South Dakota—D. W. Rudgers, Yankton.
Tennessee—D. E. Nelson, Chattanooga.
Texas—H. A. West, Galveston.
Utah—H. D. Niles, Salt Lake City.
Vermont—Henry D. Holton, Brattleboro.
Virginia—J. A. White, Richmond.
Washington—C. G. Brown, Spokane.
West Virginia—John L. Dickey, Wheeling.
Wisconsin—W. T. Sarles, Sparta.
Wyoming—R. Harvey Reed, Rock Springs.

Correspondence.

The Standard English of Medical Men.

Washington, D.C., Nov. 12, 1899.

To the Editor:—A series of articles entitled "Suggestions to Writers," has appeared from time to time in one of our leading medical journals, but it is noticeable in subsequent issues of the same journal that the editor often writes without taking into account the very grammatical exigencies to which he calls attention. This reproach, by no means new, is familiar in the foreworn admonitions as to the transgression of those living in glass houses and those who see motes in their neighbor's eye. It is said, moreover, that if a man values his peace of mind, let him not write about the Queen's English. In spite of the warning that such experiences give, and conscious of the fate that awaits him who plays with edge-tools, I am prudent enough to approach this delicate subject, not with a view to fault-finding or saying anything particularly new, but rather to point out, after the manner of a literary laundryman, a few of the spots that stain the medical shirt front of many who use our common vernacular. An immaculate linen marks refinement in dress, so should purity and precision of expression characterize the language of a science that deals with such important topics as health and disease, life and death.

Most of us who attend the Association meetings, I dare say have noticed the different intonations that mark the southerner, the down-easter, and the man from the western prairie. But it is not so much these peculiarities as their questionable linguistic expressions that call for emendatory criticism.

More or less laxity and impropriety of speech prevail among all classes; but what must be the attainments of a Nestor of the profession in Washington, who, when asked about one of his patients, said, "He is some better," and in the same conversation was guilty of such solecisms as "It looks badly;" "was *illy* done;" "does your head hurt you *any?*" and "I have a *prejudice in favor* of blue mass." That he meant a predilection, prepossession or bias in its favor goes without saying. But this impropriety in language is not confined to the medical profession alone. Mr. Brander Matthews writes: "There is no prejudice [presumption] in its favor;" in one of the Consular Reports for August, 1899, p. 661, the elegant scrutiny of the Department of State allows a consul to say: "The French are *prejudiced* in favor of their own productions," meaning prepossessed; and a few days ago, in court, I heard a lawyer, who should know better, say, "a man and his wife are *prejudiced* in favor of one another." That such incorrigibles as members of Congress should use "illy" is scarcely worth citing, but when heard in a sermon otherwise good, by an Episcopal bishop of a western state, I was *prejudiced* against him for this.

Some of the foregoing incongruities I have noted in New England journals, as well as those south of the Potomac, who speak of a patient's being *raised* when they mean *reared*, and in some published west of the Mississippi who use split infinitives; *locality* and *located* for *place* and *placed; phenomenal* for *extraordinary;* and *female* for *woman.* Why should our women patients be spoken of under that generic epithet, since it may mean a sow, a bitch, a cow, or a mare?

Anatomy is often used by many writers when *anthropotomy* is meant; others write *diagnose* for *diagnosticate; abnormalities* when they mean *abnormities; organization* for *organism; due* for *owing; jeopardize* for *jeopard; significance* for *signification; derelict* for *unfaithful; excursive* for *passing*, and they *congratulate* themselves when as a matter of propriety we *felicitate* ourselves and *congratulate* others.

Many speak of *bad* cases and of *bad* colds when they mean *severe*, though it is hardly conceivable how any cold or any case of illness can be good which is the opposite of bad. An instance of this is to be found in a well-known "Text-Book of Nervous Diseases."

Writers for medical publications commonly misuse the word *idea* for *notion* and *theory* for *hypothesis*. The late Professor Henry of the Smithsonian Institution was most fastidious in discriminating between these words. Other instances of this kind are *deathly* when *deadly* is meant, and the indiscriminate use of *corporal* and *corporeal*.

Logic is often spoken of for *consistency;* logical for *analogical;* illogic for *inconsistency*, and illogical for *inconsistent*, while *laryngologists* speak of *orotundity* when they mean *orotund*.

The preposition "without," when *unless* should be used, is sometimes profound. Though corrected in a subsequent edition, it occurred in a work on punctuation by a celebrated proofreader in Boston, and the pages of Herbert Spencer's work on Education are occasionally marred by this blemish.

The word *necropsy* being preferable to post-mortem or autopsy, some hypercritical person asks what verb should follow the use of this word—to have, to hold, to make, or perform? Instead of *under* should we not rather say "in the circumstances," "in the conditions," in order to conform to etymological correctness? *Mesological circumstances*, though lacking the merit of brevity, is a phrase that seems preferable to *environment*—a word that sciolists and pseudo-scientists have worked to such a disgusting extent that I never hear it now without feeling like the man in the minstrels who asks to be struck over the head with a feather. Figure to yourself the tableau I recall of a dry-as-dust professor, with about as much grace as a bull in a china shop, trying to entertain a young girl at a reception with conversation made up of phrases from the prefaces of scientific books and interpolated with the frequent use of the word *environment*, which he used with evident lingual unction.

Like inscriptions on a thermometer, the language one uses often reveals the temperament and character. Inaccurate thinking and obscure notions naturally give rise to wabbly English as the outcome. The style of man who rises early, takes a cold bath, and reads calculus before breakfast, though he may be conceited the first half of the day and stupid the second half, will use different language from the man who hunts game in the open and makes dinner the chief event of the day. Yet both may express themselves clearly.

But clearness and simplicity of expression which always reach the most complicated recesses of thought, are more to the point in medical writing than the style of man. Ponderous words and diffuse styles are less common nowadays among scientific writers. The preference of up-to-date military authors for *foot*, *horse*, and *gunners*, instead of infantry, cavalry, and artillery, is an example to be commended. The Hon. Caleb Cushing, a pertinacious contender for pure English, often accused our language of poverty, because there was no better word than "department" to express the different branches of the governmental service.

Common instances of obscurity that have bothered me in text-books and journals are constructions in which are found the expression "not infrequently" and "not uncommonly." I am not aware that this glaring fault has been referred to before, except by Mr. Charles Reade, the English novelist. Only a few days ago I began to read in a medical journal—that shall be nameless—a leader starting with this pleonastic redundancy of construction, which was so equivocal that I had to puzzle over it for some time, and I am not quite sure now that the real meaning of the writer penetrated my sensorium.

The flagrancies here-above sketched are the more common ones that I have noted for several years in current medical literature, and the sources may all be specified, but for obvious reasons are withheld, not to mention the limitations of space which enforces their exclusion. I disclaim all uncharitableness that the foregoing remarks may imply, nor do I value myself on irreproachable English, since the weakness of our poor human nature is to admire what we lack and to condemn in others the very faults that we commit—and who does not err at times both in speech and action? Now, if it be true that style is the man and literature a social expression, there follows an intimate relation between the highest form of organized common sense known as medical science, and that purity of taste and precision of style that should mark the communication of medical knowledge either by speech or its symbolization. Consequently, in working for one we fight for the other.

If the editor does me the honor to print this I suspect that I shall soon awake to the fresh calamity of mental unrest; but as I value mental composure above many other sublunary things, my signature is supplied by the usual asterisk, although the substitution thereof may bring forth the quibble that the writer would be an ass to risk his name to such a production.

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Letter from Mexico.

(From Our Special Correspondent.)

Mexico City, Mex., Dec. 7, 1899.

The Republic of Mexico, on account of its close relations with our own country, geographically and commercially, is attracting our attention more at the present time than ever before. Its fabulously rich mines are being invaded by American wealth seekers, its great coffee, rubber, vanilla and mahogany districts are being explored, and approximated by the business men of the United States. Commerce is rapidly increasing in importance between these two countries, and the American traveler will to-day hear fully as much English spoken on the Broadway of the City of Mexico, as he will the Castilian language which was introduced here by Cortez.

THE PROFESSIONS IN MEXICO.

We would naturally expect, in view of this peaceful invasion of American interests, that the professions should be equally represented in Mexico. This is to a certain extent true. The laws of Mexico are not, however, very favorable toward foreigners who desire to practice law, medicine, civil and mining engineering, as, in order to obtain a legal standing in any of these professions one must pass the same examination, before the proper board of examiners, as is required of the Mexican aspirant of a degree, and this examination must be taken in the Spanish language. Previous to taking my examinations, I had practiced in the city under many difficulties. Not being able to sign my death certificates, I was obliged to secure the kindly aid of a Mexican graduate, when an unfortunate patient died, as no burial permit is granted without a legally qualified physician's certificate is furnished. In case of no certificates being forthcoming, the Board of Health orders an official autopsy, in order to determine the cause of death, and if any suspicious circumstances are developed, the suspected person or persons are at once arrested. It is thus evident that the unlicensed practitioner has no legal standing, is in fact not even recognized by the law; his position as medical attendant in such a case might be made, to say the least, very uncomfortable. The fact is, however, that during my residence of fourteen years in Spanish America, I have never known of any case where official inquiry has resulted disastrously to an American physician. The Mexican law recognizes diplomas from standard foreign medical schools, as evidence of sufficient medical knowledge to entitle the holder to final examinations required of a Mexican student who aspires to the medical degree.

EXAMINATIONS FOR PRACTICE.

The examination is, however, more thorough in case of a foreigner, as the American student is well known to the faculty, and the final examination is more or less a mere matter of form. The Mexican medical student has to take a course of study covering a period of six years, and every student is required to act as hospital interne for several months during his final year. The first step for the foreign physician to take in order to obtain an examination before the National School of Medicine in Mexico, is to have his diplomas sent to the secretary of state in the state where the diploma was granted, in order that that officer may certify to the genuineness of the signatures on the diploma. Then the certificate of the secretary of state must be sent to the secretary of the Mexican legation at Washington, or to the nearest Mexican consul, who certifies to the signature of the secretary of state. These documents, together with the diploma, must be presented to the secretary of the National School of Medicine, together with six copies of a thesis written by the applicant, in Spanish. One is finally required to satisfy the secretary of the school that he is the proper owner of the diploma. On complying with these little formalities, he is then told that he must wait his turn for the examination, as but one applicant is examined at a time. His name is inscribed in a book, and he will be notified three or four days before his examination takes place. The examination is divided into two parts, theoretical and practical. The first is held in the old inquisition building, which has recently been remodeled and rechristened the "National Medical School." The examination begins at 6 o'clock in the evening, and is held in one of the larger lecture-rooms. When I arrived there the seats were nearly all filled with physicians and students who were awaiting the immolation of the "Americano." Seated on a raised platform at one end of the room were six professors of the medical college, five of whom were to be my inquisitors, while the sixth acted as secretary of the board. An empty chair was placed in front of the long table behind which sat the examiners, and I was conducted to this chair. Briefly, I was interrogated by these five professors, one at a time, and the questions covered the whole range of the professional curriculum, the examination lasting about three hours. I was then dismissed, after being told to present myself at 7 o'clock the following morning at St. Andrew's Hospital, a national institution. On arriving there I was met by the professor of surgery, conducted to a bedside and told to make a diagnosis, prognosis, and lay out a line of treatment, on all of which he would question me later. When I had finished observing the patient, another physician took me to another hospital patient, and so on, until each of my examiners of the previous evening had furnished me with a case. The last professor, however, took me to the anatomic room and requested me to ligate the femoral artery in Hunter's canal. All of this consumed about two hours, and I was then conducted into the examination room in the hospital, which is used for this purpose, and similar to the one at the medical college. Here I was questioned by each of the professors concerning the case he had assigned to me, after which I was asked to retire from the room, and about five minutes later I was handed a sealed envelope which contained the verdict of my examiners. On opening it, I was pleased to read a statement signed by the secretary of the State Board of Examiners, to the effect that they were satisfied with my proficiency, and that a diploma would be granted me in the regular way. I was then told to have my photograph taken, and to send an unmounted copy to the secretary of the National Board of Health to be attached to the diploma which was handed me, after I had affixed my autograph to a book kept for that purpose.

In some future letter I may describe the courses of study laid down in the Mexican Medical College, allude to the many hospitals here and other items of medical interest.

A. W. Parsons, M.D.

A Pathologic Exhibit for the A. M. A.

St. Paul, Minn., Dec. 13, 1899.

To the Editor:—I wish to express my hearty approval of the plan of acquiring a permanent pathologic exhibit for the American Medical Association, as outlined in the article by Dr. F. B. Wynn, published in the Journal of December 2. It seems to me practicable and of unquestioned value.

Truly, yours, Parks Ritchie, M.D.

Skeleton Calendars.

Boston, Dec. 8,. 1899.

To the Editor:—The profession is still being afflicted with the insulting skeleton calendar, and it seems as if those rendering them should receive some rebuke from the profession. It seems a strange way to bid for patronage by representing our professions as death-dealers. In former years I have contented myself with destroying as many of the calendars as I could; this year I have written on the envelope, "I will not accept this most insulting calendar," returning it to the post office.

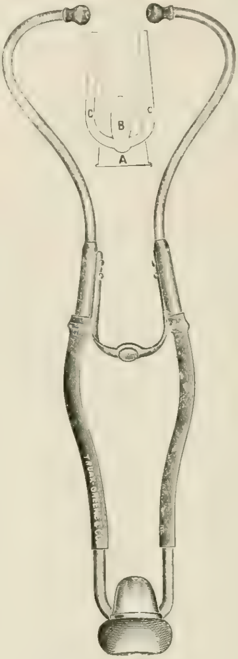
Wm. E. Baxter, M.D.

New Instruments.

A NEW CHEST-PIECE FOR THE STETHOSCOPE.

BY FREDERICK W. MERCER, M.D.

CHICAGO.



The chest-piece shown is so constructed as to be adjustable to any stethoscope having elastic conducting tubes. The plan is a modification of that adopted in the construction of a class of ear trumpets, and the object attained is increased volume and greater intensity of pitch than has been possible with the common or direct chest-piece.

Intensity is not so noticeable when auscultating the heart, as it is in the respiratory murmurs, where this device takes the same rank as does the phonendoscope in heart sounds. To those having a dulled sense of hearing, this little adjunct will be found a welcome aid.

German silver is the best material for its construction. The plan consists of an outer bell (A), slightly conical; an inner bell (B), also conical, but much smaller. The inner bell is in reversed position to the outer, and is held there (about 2mm.), free of the smaller end of the larger bell. The inner cone is supported by, and connected with, two tubes (C), passing through the sides of the outer bell, curving upward and slightly inward, for about 5cm., for connection with elastic conducting tubes.

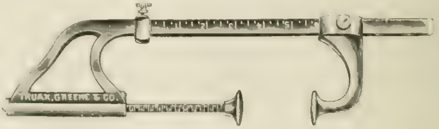
2540 Prairie Avenue.

MUSCLE TENSION METER.

BY A. G. FIELD, M.D.

DES MOINES, IOWA.

The above cut represents a new instrument originally designed by me, to determine with precision the extent of muscular softening, in pension claims for alleged disability from paralysis, fracture, dislocation, gunshot wounds, or other traumatic injuries. In use, the two knobs are adjusted to the side of the limb, and secured by the lower or right-hand set-screw. The left knob is then pressed into the limb, one inch, more or less, shown on the lower scale, and held in place by the left-hand set-screw. The shaft carrying the right-hand knob indicates the amount of force required, in pounds, of which note is to be taken. While the instrument is in position the subject is directed to voluntarily contract the muscles of the limb. The resistance will again be shown in pounds, by the movement of the shaft. A comparison of results of examination of the two corresponding limbs is necessary. The instrument is applicable, not only in diagnosis but in prognosis after fracture, dislocation and other injuries, to indicate progress in muscular development.



Book Notices.

Enlargement of the Prostate, Its Treatment and Radical Cure. By C. Mansell Moullin, M.D., Oxon., F.R.C.S., Surgon and Lecturer on Surgery at the London Hospital. Second Edition. Price, $1.75. London: H. K. Lewis. Philadelphia: P. Blakiston's Son & Co. 1899.

In this second edition of this work, Moullin has omitted the account of many operations noticed in the first edition which he regards as of only historic interest at the present time. Those here discussed are suprapubic prostatectomy, Dittel and Nicoll's perineal operation, Bottini's operation and orchidectomy. He rather favors Belfield's suggestion of a perineal incision in many cases of the suprapubic operation, for exploring the prostatic urethra, and also points out its advantages for drainage. Bottini's operation, he holds, has not met with all the favor it deserves, though its applicability is somewhat limited, and he is inclined to believe that its benefits are not exclusively due to its removal of a passive obstruction. It relieves congestion by destroying the various plexuses and thus does away with the various evils of congestion, causing irritability and vice versa. Orchidectomy in his hands has had good results, and he may be reckoned among its advocates, at least in properly selected cases. Vasectomy, on the other hand, does not receive his recommendation. The larger part of the work on anatomy, diagnosis, symptoms and local treatment does not appear to have been very materially altered. He expresses an even more hopeful opinion than in his first edition as to the outcome of proper measures in this affection, in his preface to the present volume.

A Text-Book of Physiology. By Winfield S. Hall, Ph.D. (Leipzig), M.D. (Leipzig), Professor of Physiology, Northwestern University. Illustrated. Philadelphia and New York: Lea Brothers & Co. 1899.

This volume, appearing as it does simultaneously with the new edition of Kirke's Physiology, is necessarily subject to a comparison with that well-known work. It does not, however, suffer on careful examination, but is a work that improves on acquaintance. Its plan is somewhat different from that followed in other text-books, and the special attention given to physiologic chemistry may perhaps make a more formidable impression on the student than is the case elsewhere, but this soon wears off, and in view of the greater importance given of late years to the chemical questions of medicine, it may be credited as a special advantage of the work. There is very little padding or unnecessary verbiage. The work impresses one as judiciously conservative, simply giving facts in preference to opinions on or discussion of disputed points. As a student's text-book it may appear at first sight as less attractive than some others, but for study and reference we can not say it is inferior to any, and it has its own special merits. It is certainly scientific in the best modern sense. We notice a little slip in the conversion of Fahrenheit to Centigrade, on page 395, which, however, is unimportant. There may be others, but we have not detected them. The work is one we can cordially recommend to students, either medical or others, and to the practical physician.

Introduction to the Outlines of the Principles of Differential Diagnosis, with Clinical Memoranda. By Fred. J. Smith, M.D., Oxon., F.R.C.P., Lond., Physician and Senior Pathologist to the London Hospital. New York: The Macmillan Company. London: Macmillan & Co., Ltd. 1899

The author's modest claims for his work as stated in his preface, that he has not aimed to produce a text-book of medicine but simply to offer "a series of pegs whereon to hang a chain of knowledge," conveys an idea of the plan of the volume. It is a series of statements, largely in tabulated form, of the leading diagnostic points of the various disorders with general explanatory and critical remarks relative to the same. This is a convenient form and the only essential is that it shall be sufficiently full and accurate and not make the mistake of accepting too comprehensive or erroneous generalizations, as is too often the case. The author claims to have carefully avoided this error so far as he was able, and we find no striking evidence, at least, that he has not succeeded. He also admits numerous sins of omission, and thus disarms criticism as to these. Taken altogether, the work is a very meritorious one, performing about all it promises, and it will therefore probably meet with the desired favor from the profession.

Text-Book on Embryology for Students of Medicine. By John Clement Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. Illustrated. Philadelphia: W. B. Saunders. 1899.

This work was written with the intention of meeting the demand for a comprehensive student's manual of human development without the unnecessary minuteness of detail of the larger treatises or their elaborate discussions of comparative embryology. The author has fairly succeeded in his intent, and has given us a text-book that will be likely to be well received and for some time be a standard work on its subject. The illustrations are numerous and well selected; the descriptions generally clear and full and the general make-up of the book excellent. There is no overloading with references, but the author expresses his indebtedness to several leading authorities, in his preface. The work concludes with a tabulated chronology of human embryonic development and a very satisfactory index.

Practical Treatise on Medical Diagnosis for Students and Physicians. By John H. Musser, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Third Edition. Illustrated. New York and Philadelphia: Lea Brothers & Co.

The appearance of a third edition of a work of this class, within six years, is sufficient evidence that it is appreciated as a valuable contribution, and also, in the present case, of marked advances in our knowledge of its subject. The present volume has been largely rewritten, some sections entirely, and very considerable changes have been made in its arrangement. New chapters have been written and a total of nearly 150 pages added to the volume over the preceding edition. The chapters on infectious diseases have been transferred to the general section of the work, from that of special diagnosis, and much new matter has been added. This can also be said of the whole section on general diagnosis, which fills some 400 pages as compared to less than 180 in the third edition. Nearly all the chapters have new headings and are extensively revised, those on the nervous system being entirely new. Another feature of the work is the presence of many new illustrations, including numerous colored plates that were lacking in the earlier editions. The purchaser of this book can most certainly feel assured that he is obtaining his money's worth.

Annual and Analytical Cyclopedia of Practical Medicine. By Charles E. de M. Sajous, M.D., and One Hundred Associate Editors. Illustrated with Chromo-Lithographs, Engravings and Maps. Vol iv. Philadelphia: The F. A. Davis Co. 1899.

The fourth volume of this unique work includes subjects coming alphabetically between "Infants" and "Mercury." As the volume covers such a variety of topics, and these discussed by so many authors, it may seem unfair to mention only one; and yet we want to speak of the article on Insanity, because it represents the last literary work of the lamented Dr. George H. Rohé, and because it is deserving of special mention. It is exhaustive, and yet written in such a concise manner that it covers only seventy-five pages. It is thoroughly up-to-date, representing modern thought on the subject. Many other elaborate contributions are deserving of notice, but as all are good, it would be invidious on our part to mention any if not all. The author seems to have the happy faculty of selecting the right men for the right places, and of giving just as much space to a subject as it deserves, and no more. We can not say that we endorse the manner in which use is made of recent literature, as it takes more space than seems to us necessary; at the same time the volumes thus far published show that when completed the work will be a cyclopedia of practical medicine, thoroughly up-to-date, reliable, and worthy of the highest endorsement.

Transactions of Indiana State Medical Society. Octavo. Cloth. Pp. 552. Indianapolis, Ind.: 1899.

This book contains the papers read before, and the proceedings of the Indiana State Medical Society, which we believe is the second largest state society in the country. Its membership is 1561. The session was the fiftieth annual meeting, and the event was duly celebrated. The address of the president, which is full of good, round common sense, took a reminiscent phase, and the address of the good, old Dr. Wishard, one of the founders of the society, is full of interest as a historic paper. Only four of the original founders of the society are now alive, and their photographs are printed in a group as a frontispiece. These are Drs. William H. Wishard, John N. Gaston, and Patrick H. Jameson, Indianapolis, and Thomas W. Florer, Waxahachie, Texas. Besides the papers mentioned, the volume contains forty original articles, all of superior merit. The book is well edited and the chairman of the Publication Committee, Dr. A. W. Brayton, deserves credit for his successful labors. It is a mistake that such a book should be issued without an index, for without this it is a library of useful knowledge with the door locked, and no key to open it. The key does not cost much; let us have it always. The book deserves a better binding.

Transactions of Iowa State Medical Society. Octavo. Cloth. Pp. 420. Des Moines, Iowa: 1899.

This annual volume of the Iowa State Medical Society shows that that body is doing good work. Nearly fifty papers were read at the last, the forty-eighth annual, meeting, and these, with the discussion in full, are printed in the volume. The Society is in a flourishing condition, having 688 members. The volume before us reflects credit on those under whose supervision it was printed.

Fractures and Dislocations. By Professor Dr. H. Helferich of Greifswald. Illustrated. Translated from the third edition, by J. Hutchinson, Jr., F.R.C.S., Surgeon to the London Hospital. New York: William Wood & Co. 1899.

This translation of Helferich's very fully illustrated treatise on fractures and dislocations is the latest issue in Wood's series of Medical Hand Atlases. The translation is good and the work seems likely to receive as much favor in this form as it met with in the original German.

Deaths and Obituaries.

Maj. F. C. Armstrong, of the 32d Kansas, died in Manila, December 4. He practiced in Eldorado, Kan., up to October 1, when he sailed from San Francisco for Manila. He was 46 years old.

Robert Naylor, M.D., of Salisbury, Md., died at Canon City, Colo., December 15. He was an Englishman by birth, and came to this country many years ago.

Emil Fischer, M.D., Jefferson Medical College, 1855, who came to this country from Germany when quite young, died at his home in Philadelphia December 13. He was one of the founders of the German Hospital, much devoted to charitable work, and somewhat noted as a musician of more than average ability.

William Pitt Brechin, M.D., Harvard, 1872, of Boston, Mass., died December 10. Besides being a member of the American Medical Association, he was identified with the New England Historic-Genealogical Society, the Harvard Medical Association, etc., at the time of death.

George Carey, M.D., Houlton, Me., died November 29. He was born in 1837, was graduated from Bowdoin College in 1860, and in 1861 entered the Union Army as 1st lieutenant Co. K, 1st Maine Cavalry, being promoted to captain in 1862. He was later a member of the Maine Senate, and in 1879 was assistant surgeon-general of the governor's staff, with the rank of colonel.

Stephen T. Beale, M.D., died in Philadelphia, December 14. He was born in Sussex, England, in 1814, and came to America in 1831, locating in Philadelphia in 1837. He was graduated from the Jefferson Medical College in 1847.

Charles Herwisch, M.D., Philadelphia, one of the attending physicians to the Philadelphia Polyclinic, and also of the Rush Hospital for Consumptives, while driving recently had his horse frightened by a locomotive. Collision with a trolley car threw the Doctor out, and the injuries received resulted in death, December 14. He was 47 years old.

C. M. Stockwell, M.D., Port Huron, Mich, died at his home, at the age of 76 years, December 9. He was a graduate of the Berkshire Medical College, Pittsfield, Mass., class of 1850. After graduation he practiced a year in Pennsylvania, and then located at Port Huron. He has since twice been president of the Michigan State Medical Society, as well as prominent in other societies. During the Civil War, he was surgeon of the 28th Mich. Infantry, and at the close of the war was assistant-surgeon at Fort Gratiot, for a time.

Samuel Ketch, M.D., Bellevue Medical College, N. Y., 1875, died in that city December 14, aged 44. He was a member of the American Orthopedic Association, and at the time of his death attending orthopedic surgeon of the Montefiore Home. The meeting of the Orthopedic Section of the New York Academy of Medicine, December 15, was adjourned out of respect to the memory of Dr. Ketch, and a committee appointed to express the sentiments of the Section. The committee reported as follows:

The Orthopedic Section of the New York Academy of Medicine desires to express its profound grief at the sudden death of Dr. Samuel Ketch, one of its most useful and honored members.

An original member of the Orthopedic Society, since merged in the Orthopedic Section of the Academy, he served as its Secretary in 1889 and as its Chairman in 1891, presented several valuable original contributions, and was at all times prominent in everything pertaining to its best interests and progress.

Identified with the practice of orthopedic surgery for nearly twenty-five years, and in every way devoted to the advancement of his chosen work, his life was one of consistent uprightness and honest and successful effort.

Henry Ling Taylor,
Newton M. Shaffer,
Reginald H. Sayre,
Committee.

S. R. Coker, M.D., Mount Calm, Texas, died November 30, while returning from a professional call....Benjamin N. Comings, M.D., New Britain, Conn., December 4....Albert Foster, M.D., Marquette, Mich., December 6, aged 30....Sheffield M. Greene, M.D., Richburg, N. Y., November 27, aged 85....Holman S. Humphrey, M.D., Hillsdale, Mich., November 25, aged 56....F. L. Johnson, M.D., New York City, December 10, aged 30....A. D. Jausset, M.D., Patterson, N. J., December 9....Jacob K. Kistler, M.D., Lehighton, Pa., December 9, aged 51....George A. Lankford, M.D., Harrisburg, Texas, November 30, aged 30....J. Rowland Lewis, M.D., King William Courthouse, Va., December 9....Wm. A. Lockwood, M.D., Brooklyn, N. Y., December 8, aged 60....Wm. E. Robbins, M.D., Hamburg, N. Y., December 2, aged 32....Simon Rosenberger, M.D., Pasadena, Cal., December 4, aged 68....A. E. Senkler, M.D., St. Paul, Minn., December 10, aged 57....Uriah M. Short, M.D., Grand Rapids, Mich., December 13, aged 54....J. T. Simpson, M.D., Glen Springs, S. C., December 3, aged 50....J. T. Tamblin, M.D., Greenwood, Neb., November 29, aged 67....H. A. Volked, M.D., Buffalo, N. Y., December 11, aged 28 years....C. F. Waters, M.D., Marietta, Ohio, December 10.... J. D. Westerveldt, M.D., Corpus Christi, Texas, December 10....E. M. Whiteworth, M.D., Webb City, Mo., November 26, aged 70....Edward N. Wood, M.D., Buchanan, Va., December 9, aged 59.

DEATHS ABROAD.

Otto Hohls, M.D., formerly of the University of Strasburg, and assistant-surgeon of the Boer Army, was killed at Ladysmith recently, according to press dispatches.

George Logan, M.D., Ottawa, Canada, died November 17, aged 69. He received his medical education in Columbus, Ohio, being graduated in 1860. He located in Ottawa in 1863 and practiced there until his death. For many years he was a member of the Ontario Medical Council.

Miscellany.

Rating of Expert Evidence.—It is error, the supreme court of Nebraska holds in Hayden vs. Frederickson, to instruct the jury that "expert evidence is of the very lowest order, and is the least satisfactory." It maintains that it is for the jury alone to determine the weight to be given such evidence.

Formation of Speech.—Marage has established that the vowels are formed exclusively in the buccal cavity, *Sem. Med.*, November. 29. and has succeeded in obtaining complete casts of the mouth as the different vowels are produced. He suggests that these casts might afford assistance in training deafmutes to speak.

Chloroform in Gelatin Tubes.—The chloroform is put up in gelatin tubes holding 30 to 50 grams each. J. Fisher commends this method (*Wiener Med. Presse*, No. 45), on account of the absence of danger of breakage, the hermetic closing economic administration and simple manipulation. It is especially designed for obstetric practice.

Secondary Infection in Lepra.—Brutzer writes to the *St. Petersburg Med. Woch.* that his experience at the Riga leprosorium has shown that the exacerbations in lepra are chiefly due to intercurrent infection favored by the cutaneous lesions, burns, etc., to which leprous subjects are particularly liable on account of their insensibility to pain.

Hemiplegic Neuritis from Intoxication with Carbonic Oxid.—An article in the *Revue Neurol.*, 13, calls attention to the great value of electricity in the diagnosis and prognosis of the various paralytic symptoms which follow intoxication with charcoal, differentiating at once without trouble between paralysis from neuritis, paralysis from central hemiplegia and hysteric paralysis.

Endonasal Treatment of Frontal Sinus.—G. Spiess writes to the *Archiv f. Laryng.*, ix, 2, advising an opening in the lowest portion of the frontal sinus, for the subject to rinse out the cavity every day. He inserts the trephine through a sound first introduced into the sinus after cocain, its course followed by the X-ray. "The operation is no more serious than the puncture of the maxillary sinus."

Rat Tail Tendon Absorbable Sutures.—E. Janes states (*Gaz. Méd. Belge*, November 15) that remarkably fine strong suture material can be obtained from the tail of the rat, cutting the skin around the base of the tail and pulling it off reversed like a glove. By scraping with the nail at the last vertebra, a bundle of five or six tendons can be seized, which are aseptic and can be used as they are, threading easily. They can be kept dry or in alcohol, are readily absorbed and very useful for delicate surgery, especially for the eyes.

State Board of Health of Pennsylvania.—The last report of the Board has been published. As a general rule the reforms asked for met with failure at the hands of the legislature. The Board desired to have local boards in all parts of the state, but without avail. Another thing asked for was sufficient power to suppress pollution of rivers, which was also defeated. The annual expense of the Board is about $4000. During the last year $6300 has been expended in suppressing smallpox, which is prevalent in different sections of the state.

Hydrophobia Without Being Bitten.—Among the eight persons who died out of the 1500 treated during 1898 at the Paris Pasteur Institute, was a child who was attacked by a rabid dog but was not bitten, pushing the dog away with his hand on the animal's open jaws, and soon after rubbing his eye with his hand, as a grain of sand lodged in it. He died of hydrophobia sixteen days later. Another person was bitten fourteen months before, by a dog which was then and has ever since been in apparently perfect health. In another case a man was bitten, but the veterinarian who examined the carcass of the dog, killed at once, certified that none of the ordinary symptoms of rabies were discoverable, and yet the subject died in forty-three days.

Surgical Intervention for Tumors of Bladder.—In Pousson's statistics, collected in 1895, no patient had survived over two to four years. Motz reported, at the French Congress of Urology, that he had collected 55 cases thus operated on; 35 over three years ago. Only 1 patient has survived out of 18 with epithelioma, but 7 are still alive, with 4 recurrences out of 9 with papilloma. Clado reported 49 cured out of 62 benigns, and 28 in 111 malignants. Albarran reported 36 cases out of 48 benigns, and 23 out of 97 malignants. Boeckel also reports 2 cured after removal of a papilloma, three and five years ago. One required an operation a year and a half afterward, for a supposed recurrence, but on operation a large calculus was found and no evidence of recurrence could be discovered then or since.

Not Case to Order Physical Examination.—People vs. Roosa, is the title of a case wherein it was sought, by mandamus, to establish a right to the office of chief of police or policeman in a village. In opposition, it was maintained that the applicant for the position was lame and otherwise physically disabled and incapacitated to perform the duties of the office. The court ordered him to submit to a physical examination. But the second appellate division of the Supreme Court of New York reverses the order, on the ground that it was without legal authority either statutory, or otherwise. Referring to Section 873, of the Code of Civil Procedure, it says that it applies, in terms, to actions for the recovery of damages for personal injuries, and does not embrace such a proceeding as this, and that, besides, it may only be had in connection with an oral examination of the person, which was not sought here.

Treatment of Tuberculous Testicles.—Potherat states that in every case of chronic tuberculosis of the testicles, which he has treated by ablation of the affected side, the other side became affected in less than two years afterward, although the general health remained good and the patients were young. He therefore concludes that unilateral castration is useless as respects the definite cure of genital tuberculosis (*Gaz. Med. Belge*, November 30). The only means of accomplishing it would be the total ablation of both testicles, vasa deferentia and prostate. Unilateral castration does not retard the progress of the tuberculosis, and its possible effects on the psyche may favor the general depression. He would restrict castration to the cases of enormous tumor formation, numerous purulent foci or multiple fistulæ.

Allows a Big Dentist's Bill.—In view of the character of some of the communications published in the columns of the Journal, with regard to the reluctance of a former probate judge of Cook county to allow proper claims for medical attendance, it is of double interest to note that the present acting judge of the court is reported to have just allowed a claim of $1605, against the estate of the late George M. Pullman, palace car magnate, for dentistry. The account is said to run from 1893, and to be made out of charges aggregating $1161 for work done for Mr. Pullman, and $444 for work, etc., for one of his sons. The dentist charged $10 an hour for his services. In September, 1895, the account was swelled $275. The largest charge for a single day during that month was $60; the smallest, $20. On the son's account, $25 was charged two occasions for "lost time." One item was $250 for "regulating" the teeth and gums.

Craig Colony for Epileptics.—The annual report of the Board of Managers was submitted to the State Board of Charities, at its yearly meeting, December 15. It shows great growth of the institution during the past year. Since the opening in 1896, 504 epileptic patients have been received, of which number 378 still remain. New buildings now in process of construction will increase the present capacity to 720 beds. There still remain about 550 applicants on the waiting list, to be accommodated. The report asked for appropriations for infirmaries for the helpless and crippled epileptics of both sexes, and $4000 to carry on scientific investigations in the cause of epilepsy and to secure advanced methods of cure and treatment of the diesase. The deathrate for the year was but 2 per cent., the lowest in the history of the colony. During the past year only 95 cases were admitted, owing to the present insufficient accommodations.

Deprivation of Alkaline Salts in the Food As an Adjuvant of Sodium Bromid Treatment of Epilepsy.—Richet and Toulouse announced at the meeting of the Paris Academy of Sciences, November 20, that their experiences with thirty female epileptics has demonstrated that depriving the nerve-cells of the usual amount of salts in the food, renders them avid of medicinal salts which they take up to a remarkable extent, rendering a fraction of the usual dose effective. Two grams of sodium bromid a day arrested the epileptic attacks, sometimes in less than a week, no matter how frequent they had been before. Several have shown no recurrence during the six months since. As the bromid is so much more active in these conditions, intoxication must be guarded against. Richet proposes to call this "chloridic semistarvation of nerve-cells," the metatrophic method, and suggests that it may possibly apply also to affections treated with quinin, digitalin, atropin, etc., as well as those in which the alkaline salts are administered. The saltless food has no deleterious influence on the patient.

Health of Camden, N. J.—Dr. E. B. Godfrey, of the Camden Medical Society, read a paper before that body recently, in which he proved that there has been a great reduction in the typhoid fever cases in that city since artesian well water was substituted for that from the Delaware River. The number of typhoids were said to have been reduced 62 per cent., and from this it is judged that the Delaware River water was the chief source of infection. During the past three months, September, October, and November, but five cases and one death have been reported in a population of 75,000.

Physicians Increasing in Germany.—The *British Medical Journal*, December 2, notes the rapid increase of physicians in Germany. In 1898 it was found that the number of practitioners in Germany had increased 56 per cent. during the previous eleven years, while the population had increased only 14 per cent. "In other words, whilst the proportion of medical practitioners to inhabitants was for the whole empire about 1 to 3000 in 1887, it was, in 1898, 1 to 2197. The number of doctors, especially those in private practice, increased in proportion to the population least in commons of medium size (5000 to 20,000 inhabitants), but in commons with less than 5000 inhabitants it increased by about 30 per cent., while the number of inhabitants increased only by 0.3 per cent. The increase in the number of doctors is greatest among those employed by *Anstalten* or institutes of the private hospital order; such abound in Germany for the treatment of diseases of all kinds."

Cryoscopy.—Lindemann considers the freezing point of the urine the most reliable means at our command to test the permeability of the kidneys, endorsing Koranyi's assertion in full. The variations in the freezing point with parenchymatous and interstitial nephritis are also characteristic. With the latter the urine may even have a lower freezing point than normal blood serum. It is impossible to distinguish between acute and chronic nephritis by this means, but recovery can be recognized by the rising of the freezing point. Albuminuria with congested kindney, cystitis and pyelitis are differentiated by the lack of change in the freezing point. Lindemann found that the concentration of the blood remains normal with renal affections as long as there are no uremic accidents. When uremia appears, the concentration of the blood and the osmotic pressure are increased, while the freezing point drops 7 degrees C. This increased osmotic pressure is the general expression of the disturbances induced by the uremia. The same phenomena follow the injection of concentrated salt solution into the circulation. They coincide with the increased concentration of the blood when elimination of the substances accumulated in the blood is prevented.

Etiology of Surgical Tuberculosis.—Friedrich of Leipsic has been conducting experimental researches, for years, to determine questions relating to the connection between trauma and surgical tuberculosis. He introduced pus from a tuberculous abscess, or pure cultures of tubercle bacilli directly into the left ventricle through the right carotid, with a long canula, but found that tuberculosis of the bones and joints was only induced by this means in animals infected with *slightly* virulent bacilli material. The affection thus produced resembled human local tuberculosis very closely, both from the anatomic and clinical point of view, especially in its length of its evolution and its long isolated condition. In none of the experiments however, was the tuberculous affection located at the point of the trauma. One animal had tuberculosis in five joints, but the one joint injured by the experimental trauma remained intact, although the animal had been inoculated with the cultures five minutes after the trauma. None of the contusions and distortions seemed to afford a *locus minoris resistentiæ*. The kidneys were not apparently affected in any case inoculated with weakly virulent infection, but with small doses of highly virulent material both kidneys became violently infected. In fifteen animals one of the kidneys was removed after this violent infection, with the result that in spite of the simultaneous renal tuberculosis on the other side, the animal did not become any worse, and when killed later, the remaining kidney was found much hypertrophied and some portions of the tuberculous processes were in a distinct stage of regression. The report was presented before the German Cong. of Phys. and Nat.

Ptomain Poisoning on an Army Transport.—The transport *City of Rio de Janeiro* left Honolulu, H.I., Oct. 17, 1899, for Manila, P. I., carrying about 700 officers and men of the teritis occurred, the disease being chiefly confined to one 35th U. S. Vol. Inf. Five days later 25 cases of gastro-en- company. This outbreak was at the time attributed to the use of canned goods purchased by the men from the commissary store on board the transport. Under this impression further sale of this was prohibited. Next day, however, that is, on the evening of the 23d and morning of the 24th, 289 enlisted men and two officers were attacked with abdominal pains, vomiting, diarrhea, headache, muscular prostration and great thirst. All these symptoms were not manifested equally in every case. In 42 the headache was very severe, and in 18 the diarrhea could not be restrained. Muscular weakness was present in all, and in 35 there was excessive perspiration, with coldness of the skin, cramps of the legs and arms, aching of the joints, great restlessness and muscular twitchings. In a few of the cases prostration was very great and the pulse feeble. One man died at the end of eight hours. On investigation it was found that all who were sick had eaten of the fresh meat issued to the men on the evening of October 23. The use of this meat was discontinued. No further sickness occurred. The vessel arrived at Manila November 5. Major H. O. Perley, surgeon, U. S. A., was on board as a passenger. Dr. C. W. Fry, acting assistant-surgeon, was in charge.

Uterine Sclerosis and Chronic Metritis.—In a recent thesis (Paris), M. Hepp distinguishes between true interstitial diffuse metritis leading to atrophy after inflammatory processes and a pseudometritis, characterized by a systematic perivascular sclerosis, tending to hypertrophy, as long as the physiologic activity of the uterus lasts, ranging from a mere tendency to congestion on the part of the uterus to the pure and complete type of sclerosis and giant uterus with or without fibromata. In some cases the sclerosis is the termination of a long series of accidents scattered along the entire course of genital life; in others the troubles which precede the sclerosis are less protracted, less marked and become accelerated with the approach of the menopause. In both cases they may be arrested, even retrogress with the menopause in such wise that these morbid conditions which terminate in sclerosis and always precede it, frequently suggest new clinical entities. This fact explains the protean aspect of sclerosis of the uterus which may simulate all the types of metritis according as the dominant factor is congestion, telangiectastis, hypertrophy of the cervix, sclerocystic ovaries, relaxation of fibrous tissues, general hypertrophy or myomatosis. Uterine sclerosis requires different treatment from infectious metritis. It consists essentially in measures to relieve congestion, orthopedics, partial, conservative, atrophying operations and, if necessary, total vaginal castration. Curetting, cauterization and antiseptic measures are directly injurious.

Vascular Lesions of General Paralysis.—Straub's study of this subject appeared in the *Neurol. Cbl.* of October 15, about the time of his death from a pulmonary affection probably induced by the constant use of formaldehyde in his research. He found lesions of the aorta, in general paralysis, differing from ordinary atheroma: a circular thickening of the internal coat, frequently involving the valves and oblitering the different vessels. No regressive process could be discerned, no calcification, no fatty degeneration. He noted these lesions sixty-nine times in eighty four cases out of general paralysis. On the other hand he only discovered them seven times among seventy-one individuals not general paralytics, and each of these was a syphilitic. In short, histologically they are syphilitic lesions. Syphilis was evident in 82 per cent. of the cases of general paralysis. The number of men was thrice that of the women. He remarks that syphilis leaves more persistent lesions in men. The vascular lesions in the brain in general paralysis differ also from ordinary atheroma, more resembling syphilitic endarteritis. He does not claim that these specific lesions exist in every case of general paralysis, but in every case the general paralysis is closely connected with the vascular lesion, which may possibly be its starting-point.

Burden of Proof As to Value of Services.—In Harrington vs. Priest, wherein it was sought to recover $250 for dental services, and the defendant set up a counterclaim for $1000 damages for poor work, the supreme court of Wisconsin reverses a judgment for the plaintiff, on account of error in the instruction given the jury. It holds that the burden of proving that the services rendered were performed with reasonable skill, and were worth the sum mentioned, was on the plaintiff. And it approves of the instruction: "The burden of proof, so far as this case is concerned, rests upon the plaintiff to establish his side by a fair preponderance of the evidence, which is sometimes called the "down weight of evidence." If you find from the testimony, as I say, that the plaintiff did this work in a reasonably careful and skillful manner—in such manner as dentists of ordinary standing, of good standing in this community or this vicinity would have done it—and that the price he has charged is a reasonable price, then you should return a verdict in favor of the plaintiff for the full amount claimed." But the supreme court says that the judge went wrong when he added to this the further and inconsistent charge that, in establishing the fact that work was improperly done, the burden was on the defendant. Confessedly, says the supreme court, the plaintiff had the laboring oar. There was no burden on the defendant, on this issue, to show affirmatively that the services in question were negligently or unskillfully perfomed, or that they were not worth the sum claimed. If his evidence in defense left the issue in doubt or uncertainty, the plaintiff could not recover. Under these circumstances, it could not be true that the burden rested on the defendant, "in establishing the fact that the work was improperly done." But, when it came to the question of damages under the counterclaim, or the other issue, then, the court goes on to state, the defendant could not secure a recovery except that he establish a claim therefor by the preponderance of the evidence.

Etiology of Chlorosis.—This was the chief subject discussed at the Italian Congress of Internal Medicine held at Rome in October. Castellino, in his address, emphasized the connection between this affection and Basedow's disease. The three series of symptoms that dominate each; the disturbances in the nervous system, disorders in the thyroid and genital functions and alterations in the blood crasis are probably due in each to a thyroido-genital autointoxication, acting through the sympathetic system. Murri, Eulenburg and Pozzi have shown that the changes in the blood may be traced to the sympathetic, and Pozzi ascribes great importance to the functioning of the vasomotors in the bone-narrow. The speaker therefore proclaimed that chlorosis is due to irritation of the sympathetic. Stimuli that can excite the sympathetic are particularly numerous in young girls at puberty, and this excitation can easily determine the central or peripheral vasomotor disturbances which characterize chlorosis. Riva reported numerous experiments on dogs deprived of iron in any form, and asserted his conclusion that hemoglobinogenesis is the specific function of the red corpuscle itself, and that the pathologic process in chlorosis is the new formation of corpuscles abnormal in respect to their biochemical function. Chlorosis is therefore the expression of a defective regeneration, not of an abnormal destruction of the elements of the blood. Gioffredi supported the nervous etiology on the strength of two cases which he had cured with electric treatment after failure of other measures. This nervous etiology does not exclude the possibility of ovarian hyperfunction as the secondary cause. It is important to distinguish chlorosis from other forms of anemia, while still recognizing the possibility of the complication of the picture with a secondary anemia. Aporti warmly recommended endovenous injection with ferr. citr. ammon., 1/10, as very effective in Chlorosis, and Pane described a moderate leucocytosis—10,000—with great preponderance of the mononuclear forms—lympho and splenocytes—as a *signum mali ominis* in animals and probably in man.

Maryland Examination Statistics.—The statistics of the state medical examination of candidates for practice, held last May, have been published and afford some interesting facts: 62 candidates applied, of whom one "withdrew by permission on account of illness," after having received 75 on two subjects, this being the general average required to pass an applicant. The schools represented were: University of Maryland, 29; Baltimore Medical College, 10; Baltimore College of Physicians and Surgeons, 9; Baltimore University, 4; Johns Hopkins University and Woman's Medical College of Baltimore, each 2; Harvard, Medico-Chirurgical of Philadelphia, University of Heidelberg, University College of Medicine of Richmond (Va.) and Maryland Medical College, each 1. The highest mark was 96, both Johns Hopkins men receiving this; next comes a University of Maryland man, with 95; then one from the College of Physicians and Surgeons, with 94; Baltimore Medical College, 92; Harvard, 87; Woman's Medical College, 85; University of Heidelberg, 83; University College of Medicine of Richmond, 81; Baltimore University, 80; Medico-Chi. of Philadelphia, 76. The one representative of the Maryland Medical College (the new-three-school) had his papers "canceled for cheating. Page from a compend found in papers." The lowest reached was 14 by a Baltimore University man. Of 62 applicants, 8 failed to reach the general average required, viz.: 3 from the Baltimore University; 2 from the Baltimore Medical College; and one each from the University of Maryland, and the College of Physicians and Surgeons. The average of the candidates from the six Maryland schools was: Johns Hopkins, 96; College of Physicians and Surgeons, 84.55; University of Maryland, 83.24; Baltimore Medical College, 82.20; Woman's Medical College, 82; Baltimore University, 55. The examination was written and purely didactic. The published questions show that the examination was fair, practical and of moderate severity. There is evidence of decided improvement in the qualifications of those applying and unworthy men are being frightened off. The profession of Maryland may well congratulate itself on the work of its Examining Board.

Progress of the Plague.—Two new cases of plague were reported from Santos, Brazil, during the ten days ending November 22. The *British Medical Journal* of December 9 states that there were seven cases in the Santos hospital, November 22, of which number 6 were convalescent. On December 13, the New York City Board of Health rendered its long-deferred decision in regard to the vessels from Santos, which have been for some time past in quarantine. They are to be permitted to dock and land their coffee. The *J. W. Taylor*, the only ship on which cases of plague has occurred, had sailed for Queenstown—without having been allowed to land at any dock—before the decision was rendered. Her cargo of coffee, which was transferred to lighters, is to be permitted to be landed after the coffee-bagging has been burned and the coffee itself has been roasted at a point designated by the officers of the Board of Health. All vessels hereafter arriving from infected ports may dock, after having been subjected to the course of precautionary measures prescribed by the U. S. Treasury Department and the Health Officer of the port, the latter official giving a certificate to that effect to the Health Department. Mauritius reports 29 new cases and 36 deaths during the week ended November 30. There were two new cases and 2 deaths in Hongkong, October 14-23, and 3 cases and 3 deaths in Japan during the week ended November 11. In Tamatave, Madagascar, there were 11 cases and 8 deaths, October 16-22. Later advices state that the disease is on the decline. The official reports state that there were 41 cases and 17 deaths in Oporto, Portugal, November 1-20. There has been no extension of the pest in this locality. Salimbeni has returned to Paris from Oporto and reports that the favorable results of serum treatment were maintained. Of the 142 cases treated with the serum, 21 died, a mortality of 14.7 per cent. Of the 72 not treated with it, during the same three months, 45 died, or 62.6 per cent. There has been a marked decrease of mortality in Bombay, India, the latest reports showing a rate less than 100 per week. It is said that the British Government is making extensive experiments in regard to the antiplague serum, at the Government House, Parel, Bombay. Trouble is said to have occurred in making this a popular measure in India, on account of the belief on the part of the Hindoos that the material to be injected into the body is of an animal nature and so said to be a religious offense. At the present time it is almost impossible to judge of the good results obtained from Haffkine's serum, which is due to the suppression of many cases. At Kirkee, the disease broke out among the royal artillery followers and, of these, 671 persons were inoculated and 859 not. Among the former there were 32 cases and 17 deaths, while among those not inoculated there were 143 cases and 98 deaths. It is further said that at Caneshkind, among the servants of the Governor of Bombay, 324 persons were inoculated and 300 not; 14 cases occurred in that quarter, and all of them were confined to those who had not been inoculated. The authorities of Belgium have forbidden research on the plague outside of the five principal bacteriologic laboratories, and issued strict orders in regard to immediate notification of suspicious diseases.

Queries and Minor Notes.

TRANSPORTATION OF TYPHOID FEVER.

Jacksonville, Ill., Dec. 2, 1899.

To the Editor:—Recently I was refused transportation of ten miles—on a cot in a baggage car—by a trunk line, for a patient having typhoid fever. Our secretary of the State Board of Health sustained the action. Do you know of any regulation in other states or countries concerning the transportation of typhoid patients, or have railroad companies, within your knowedge, made such regulations? Yours respectfully,

Carl E. Black, M.D.

Answer:—The transportation of persons suffering from infectious and contagious diseases is generally, we think, a matter of local regulation by health authorities, though there are perhaps statutes directly governing it in some states. There is apparently no specific law in regard to it in Illinois that would prohibit transportation of a case of typhoid fever under proper precautions for a short distance. If the principle of prohibiting the transportation of contagious diseases was thoroughly carried out, travel would be very considerably limited, and good judgment and common sense should be exercised in this as in other matters. In England the laws are rather rigid in regard to certain specially contagious disorders. The newspapers announce a suit against a railroad in Kansas for the introduction of smallpox, the decision of which may set a precedent as to the liability of carriers in this matter, but it is more doubtful whether any adverse decision would be obtained in regard to typhoid. The matter is one that can be properly left largely to local and state boards of health for decision and regulation. If we are incorrect in any of the above statements, we will be glad to be set right by any of our readers.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., December 7 to 14, inclusive, 1899.

Ira Ayer, acting asst surgeon, previous orders relieving him from duty with the transport *Wright*, and directing him to accompany the 41st Inf. Vols. to Manila, P. I., revoked.

Charles Bruning, acting asst.-surgeon, from Manzanillo, Cuba, to New Orleans, La., for annulment of contract.

W. W. Calhoun, acting asst.-surgeon, from New York City, to Washington, D. C., for instructions.

Benjamin J. Edger, Jr., lieutenant and asst.-surgeon, U.S.A., from Fortress Monroe, Va., to the Department of California.

Leigh A. Fuller, lieutenant and asst.-surgeon, U. S. A., from New York City, to duty at Fortress Monroe, Va., and as quartermaster and commissary of the Josiah Simpson General Hospital.

James E. Miller, acting asst.-surgeon, from Des Moines, Ia., to the Department of California.

Edward R. Morris, major and surgeon, Vols., now on leave, is relieved from duty in the Department of the Pacific and will report for duty at Fort Wayne, Mich.

Frederick P. Reynolds, captain and asst.-surgeon, U.S.A., to proceed from New York City, on the transport *Sumner* to Manila, P. I., for duty in the Department of the Pacific.

Louis J. Shuter, acting asst.-surgeon, from Lima, Ohio, to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended Dec. 16, 1899:

Asst. Surgeon W. L. Bell, detached from the *Philadelphia* and ordered to the *Independence*.

Asst.-Surgeon W. M. Garton, orders of December 6 modified, detached from the Washington navy yard and ordered to the *New York* immediately.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Dec. 14, 1899:

P. A. Surgeon J. H. Oakley, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Queenstown, Ireland, for duty.

P. A. Surgeon H. W. Wickes, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Glasgow, Scotland, for duty.

P. A. Surgeon J. B. Greene, to proceed to Bremen, Germany, for duty.

Asst.-Surgeon H. S. Mathewson, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Liverpool, England, for duty.

Asst.-Surgeon G. M. Corput, to proceed to Marseilles, France, for duty.

Asst.-Surgeon W. W. King, detailed as inspector of unserviceable property at New Orleans, La.

Acting Asst.-Surgeon Fred McIsaacs, granted leave of absence for two weeks from December 21.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dc. 13, 1899:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, December 2 to 9, 2 cases.

Kansas: Arkansas City, November 27 to December 2, 14 cases, 1 death; Columbus, November 27 to December 2, 1 case; Lawrence, November 27 to December 2, 6 cases; Peoria, November 27 to December 2, 1 case; St. Marys, November 27 to December 2, 2 cases, 1 death; Wellington, November 27 to December 2, 2 cases.

Louisiana: New Orleans, December 2 to 9, 7 cases.

Massachusetts: Chelsea, December 2 to 9, 3 cases.

South Carolina: Greenville, December 2 to 9, 4 cases

Virginia: Portsmouth, December 2 to 9, 19 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, November 11 to 18, 3 cases.

Bohemia: Prague, November 11 to 18, 19 cases.

Brazil: Ceara, October 1 to 31, 1 death.

Canada: Kamouraska, November 27 to December 4, 63 cases.

Cuba: Cagilda, November 27 to December 4, 5 cases.

Egypt: Cairo, October 23 to November 4, 1 death.

England: London, November 18 to 25, 1 case.

Greece: Athens, November 11 to 18, 3 cases, 1 death.

Mexico: Chihuahua, November 23 to December 2, 2 deaths; Vera Cruz, November 23 to December 7, 2 deaths.

Russia: Moscow, November 4 to 18, 2 deaths; St. Petersburg, November 11 to 18, 17 cases, 3 deaths

Spain: Corunna, November 18 to 25, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Key West, November 20 to 30, 4 cases.

Louisiana: New Orleans, December 2 to 9, 1 case.

YELLOW FEVER—FOREIGN.

Colombia: Barranquilla, October 22 to November 18, 2 cases, 2 deaths; Panama, November 25 to December 5, 10 cases, 5 deaths.

Cuba: Havana, December 1to 7, 6 cases, 1 death; Matanzas, November 26 to December 3, 1 case.

CHOLERA.

Turkey (In Asia): Amara, November 13, present; Hassorah, November 23, spreading; Fao, November 17, present; Shabra, November 16, present.

PLAGUE.

Brazil: Santos, October 18 to November 18, 22 cases, 11 deaths.

China: Hongkong: October 14 to 23, 2 cases, 2 deaths.

Japan: Osaka and Hiago, November 4 to 11, 3 cases, 3 deaths.

Madagascar: Tamatave, October 16 to 22, 11 cases, 8 deaths.

Portugal: Oporto, November 1 to 20, 41 cases, 17 deaths.

CHANGE OF ADDRESS.

Burt, C. I., from Lake City to Davenport, Iowa.
Belden, G. W., from Jericho to Underhill, Vt.
Blake, D. B., from 2102 West End Ave. to Jackson Bldg, Nashville, Tenn
Bubna, C. W., from 677 Quincy to 10 S. Woodland St., Cleveland, Ohio.
Byers, D. W., from Reading to Lexington, Mass.
Butts, J. B., from 474 Ogden Ave. to 784 W. 12th St., Chicago.
Beadles, E. S., from Water Valley, Miss. to San Diego, Cal.
Dayton, J. H., from Oregon City, Ore. to 1418 F St., Lincoln, Neb.
Felt, R. A., from Oconomowoc, Wis. to Taloga, Okla. Ter.
Hunt, A. F., from Granada to Truman, Minn.
Manchester, W. C., from Cleveland to Massillon State Hospt., Massillon, Ohio.
Owens, D. W., from Hersman, Ill. to 1314 Colorado Ave, Colorado Springs, Colo.
Sibley, A., from Wortham to Dublin, Texas.
Stout, Jno., from Ottawa, Ill. to Pender, Neb.
Walker, W. H., from Dixon to Wilson, Ky.
Wilson, J. F., from 602 W. 63d to 144 65th St., Chicago.
Williams, C. B., from Durant, I. T. to Mineral Wells, Texas.

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Original Articles.

PROCEDURE OF ELECTION IN CERTAIN CASES OF ENLARGED PROSTATE.*

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MINNEAPOLIS, MINN.

The prostatic comes to us under such a variety of conditions as regards himself, his prostate, his bladder and his kidneys as to render any routine plan of treatment, whether palliative or radical, quite manifestly absurd. It is therefore, not altogether surprising that the list of methods and operations more or less lauded for the relief of these sufferers is a very long one, including procedures most ingenious, curious and even parodoxical.

Doubtless some of the more indirect methods of proposed relief are more interesting to enthusiastic surgeons sustained by hope and the spirit of discovery than productive of actual relief to humanity. Yet there is little doubt that most of the more than a score of different procedures have some merit in different cases. This profusion of surgical resource; or, if you prefer, this great variability in the *tout ensemble* of individual cases of prostatism, is exceedingly embarassing, since it is given to few to acquire much skill and experience in the application of a multitude of methods.

It is not the purpose of this paper to attempt any general or exhaustive study of prostatism, certainly not to advocate any operation generally applicable to this exceedingly variable though common symptom-complex: but rather to elicit discussion as to the wisest advice to give and the best course to follow in a certain small class of these sufferers, and perhaps incidentally to emphasize a fact which we all know, but too often forget, viz., that in the very nature of the case, no method of treatment, especially no operative treatment, can be generally applicable against prostatism, in which the central fact of obstructed urination is about the only factor strictly common to all the more or less complex disease problems before us. Indeed, even this factor is not absolutely common to all cases, since there are prostatics with no appreciable hypertrophy, but only general senility and susceptibility to pelvic congestion.

In perusing the literature on this subject, one is struck by that old frailty of human testimony, viz., that all plans cure or appear very satisfactory in the hands of writers—ligation of the internal iliacs, castration, vasectomy, tied in catheter, Bottini, and all. This should lead us to suspect that the writers for the moment forget the clinical course of prostatic disease. We are so often told that after a certain operation the patient urinated with facility and without pain, the frequency decreased from every hour to every two, three or four hours, and the patient was living on in more or less urinary comfort when last seen ten days or ten years subsequently. This artless testimony is given with as much assurance as if such had not been very much the course of the average prostatic for ages. At times other facts and fancies, supposed to be more clinching, are added by those pluming themselves on exact scientific methods, rectal touch, mensuration per urethram, and even photographs of the parabola of the stream in its course from the meatus to the *pot de chambre,* are submitted as proofs beyond question. Such pains are rendered quite unnecessary when it is remembered that certain phenomena of prostatism are due to congestions and that the fact has been more or less understood and observed by clinicians since long ago.

From such data in conjunction with a score of years' observation of not a few of these cases, it seems fair to assume, in general terms: 1. That for many prostatics operative interference is not necessary nor desirable. 2. That a certain degree of betterment, after operation, in many cases is not necessarily a recommendation of the treatment. The general impressions of experienced men as to the benefits of these procedures is valuable, but the usual recital of case reports is practically worthless. 3. Taking absolutely all prostatics into consideration, if we were limited to a single method of treatment, and that be applied with reasonable skill, no one wishing the greatest good to the greatest number could fail to choose a scientific use of the catheter, aided alone by rational hygienic and physiologic management, and not operative treatment. In a certain considerable percentage of cases it is as yet the undoubted method of choice. Many of its failures are due to want of skill in its use, or carelessness or blunders of the patient or his advisers.

A second considerable class of prostatics, with decided and persistent mechanical obstruction with various complicating infirmities presents more or less knotty problems undoubtedly open to discussion, while a third class—relatively not very large—with large obstruction, with few complications, and relatively young and sound bodies, seems to me to present the clearest type of enlarged prostate from a surgical standpoint. It is this last class which I wish to especially consider.

The primary lesion, so to speak, of prostatism, is the development of nodules and even of considerable tumors, the appearance and behavior of which have long impressed practical men as remarkably similar to the so-called uterine fibroids. Velpeau described them as fibromyomata of the prostate. Sir H. Thompson drew a most brilliant parallel between these prevalent growths of the uterus and its homologue, the prostate. The histologists and sticklers for strict classifications based on microscopic appearances have raised more or less objections thereto, though admitting that the chief bulk of such nodules and tumors is of fibromyomatous character. The fact that there is a glandular nucleus has troubled their minds bent on formulation, led to confusing classifications, and inspired unsatisfactory theories—notably that of the French school, that it is a more or less general dystrophic sclerosis—and generally befogged the subject.

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Now let me ask any practical man who has opened a large number of bladders in prostatics, for one purpose or another, e.g., to remove complicating stone, to establish temporary or permanent drainage, to enucleate the prostate, etc., what have you almost regularly found? Secondary conditions vary very greatly, but one condition, and that the central one, is remarkably constant, viz., nodules have formed in the lobes of the prostate, and in their development they show a tendency to spontaneous enucleation; and precisely as in the uterus, they develop in the direction of the least resistance. For sufficient anatomic reasons, in the vesical neck this direction is upward and backward into the bladder; displacing and distorting the posterior urethra; elevating the outlet above the base of the bladder; disturbing the direction and the equilibrium of the power of expulsion. Naturally there is more or less irregularity and want of symmetry in the development of these nodules. Very exceptionally they may become quite pedunculated, be mesially situated, or even develop chiefly toward the rectum. Yet after the endless and time-honored discussions of middle lobes, unilateral hypertrophy, etc., the practical surgeon must be surprised to find how generally the whole prostate, and especially the sides and base, are projected upward and backward into the bladder, and how rarely the long discussed interurethral bar, median lobes, intraprostatic and other literary forms come to view. Now it is generally known and admitted that these nodules tend to become more or less enucleated, and that this tendency with few exceptions is toward the bladder. In many cases they are covered on the vesical side only by the mucosa and a thin layer of fibrous tissue as a capsule, after dividing which they may be dug or shelled out with the fingers with more or less ease. Again, in some cases these growths are comparatively of more or less rapid development, and appear in men still not old, and well preserved. The problem is chiefly one of very badly obstructed urination, by a very considerable upheaval of the sides and base of the prostate, with a bladder and the general organism relatively sound.

As the briefest method of indicating the class of cases which I have just now in view, a detailed account of the following case may be expedient:

Case 5.—Jan. 20, 1899, J. M., referred to me by Dr. Manley, came under observation. He had been a healthy, hard-working man until the preceding six years, since which he had lived with his sons, without any regular employment. About five years ago, after a long period of slight disturbances of micturition, such as rising at night, loss of force at the end, some frequency, etc., to which he paid no attention, he had retention with overflow. After a brief use of the catheter, he recovered sufficiently to dispense with it for six months. From that time—4½ years ago—until now, the obstruction to urination has progressively increased until he has had to resort to the catheter more and more. With constant difficulty in urinating, he was subject to attacks of complete retention at short intervals. Sometimes a single catheterization, sometimes its regular use for a week or two enabled his bladder to resume its function in a crippled way. Latterly he had to use the catheter most of the time, and while the instrument *en gomme* passed without much difficulty, it caused considerable irritation and pain, and frequently drew blood.

On examination, the patient appeared sound for a man of his years, though a little haggard and reduced in flesh from pain and loss of sleep for the past three weeks; arteries a little hard; digestion usually good. The urine was clear—49 oz.—sp.gr. 1022; acid; no albumin nor casts; a few blood-corpuscles and leucocytes.

On rectal palpation, the prostate appeared very large and firm in all its dimensions. Exploration with a flexible bulb sound indicated the prostatic urethra lengthened to at least 7 cm., and its central end greatly displaced upward; a rigid bladder sound was not admitted, because of obstruction after entering the prostatic urethra for about an inch. The bladder held about 6 oz. of boric acid solution without resistance, and nearly 2 oz. more would be injected under slight pressure, when the bladder expelled it all in a good stream through the catheter—all indicating the bladder to be competent when the obstruction is relieved. Without the catheter most of the fluid is evacuated under favorable conditions, after much difficulty and several attempts at starting and stopping.

The patient was observed for two weeks and prepared by proper diet, regulation of the bowels, careful use of the catheter, and lavage of the urethra and bladder. No attempt at cystoscopic examination was made, as introduction of stiff instruments was difficult, and the condition seemed—for practical purposes—very clear.

On February 2, epicystotomy was done under chloroform, the bladder distended moderately with air in a moderate Trendelenburg posture. The bladder wall was readily reached, transfixed with four stitches, and incised to admit three fingers. A large horse-collar-shaped tumor projected upward and inward around the internal urethra, with a pocket 3 cm. deep behind it; the bladder was not trabeculated. On the right of the mesial line the mucosa was incised slightly from the meatus, back to and a little over the edge of the growth. Bleeding was brisk for a moment until the fingers were insinuated, and a mass the size of a pullet's egg readily enucleated. Pressing farther forward under the urethra, another about one-half as large was soon turned out. The blood was wiped away and bits of iodoform gauze pressed into the cavity, when the same procedure was repeated on the opposite side. As soon as the hemorrhage was sufficiently checked by gauze and a few moments' pressure, a sound was passed by the urethra and the bladder cleared and examined. The large sound met with no resistance and passed readily into the bladder. The considerable tumor had disappeared, and the beak of the sound rested on the bas fond. Though the hemorrhage was now but slight, a large and long tape of iodoform gauze was carried down into the vesical neck and packed snugly into it until the space occupied by the enucleated mass was obliterated, then the end brought out through the suprapubic wound. The bladder wound was then closed about one-half, and swung up to the anterior abdominal wall with the silkworm gut suture, which closed the upper and lower angles of the abdominal wound so that no leaking could take place into the prevesical space. The remaining bladder opening was temporarily stitched to the skin.

Two short bladder drains with smooth ends, and side and end eyes, were carried to the bas fond, the surroundings well powdered with boric acid, and all covered with large pads of sterilized gauze to absorb the urine. A nurse changed these pads as fast as they became saturated. To save expense—especially after the third day—after use they were well rinsed, soaked in 1 per cent. creolin solution, wrung out, steam sterilized, dried and re-used. Every four hours the bladder was irrigated through the tubes with warm boric solution. After forty-eight hours the gauze tape was withdrawn. The urine, at first blood-tinged, soon became clear. There was little shock, no fever, moderate pain. The skin was never irritated by the urine, and the patient was up on the eighteenth day. He was then allowed to go about with the temporary suprapubic opening until March 14, when under a brief morphin-chloroform anesthesia, the bladder wall was loosened up from the skin and muscle, carefully sutured with catgut, and the abdominal wall enclosed, except at a small point to guard against possible leakage. A catheter *a demure* was left in for three days, after which he was allowed to urinate naturally.

The wound healed well and the patient left the hospital on March 24. On April 4 he reported for examination. He had gained in weight and appearance, and said he never felt better; had no pain nor difficulty in urination, though the latter was a little frequent, as he usually had to rise once, occasionally twice, at night; empties the bladder completely, and the urine is clear and normal.

The indications were a large, hard prostatic hypertrophy, chiefly intravesicular, a subject relatively sound for his age, a bladder with competent walls when relieved of obstruction at its outlet, and not seriously infected.

The operation was wholly suprapubic, with temporary drainage: 1. Because this class of growths may be best and sufficiently removed by this route. 2. While there are objections to the suprapubic drainage—chiefly the necessity of a secondary closing, and a second anesthesia—it is far better and safer against the two exigencies which necessitate drainage by one route or the other, viz., sepsis or hemorrhage. The latter is, I believe, absolutely under control by this method, while sepsis and urinary infiltration are much better prevented by an open bladder, allowing, if need be, constant irrigation, and thorough cleansing. It is quite possible to do the second operation without a general anesthetic if desirable. The result is a very nearly perfect restoration of the vesical function, which must be permanent, as far as the prostatic obstruction is concerned. In such cases—and they have not in my experience exceeded 5 or 6 per cent. of the prostatics who seriously appeal to us for aid—they present a fairly definite and as yet little complicated surgical situation. Theoretically, and I believe practically, there is but one rational procedure which can promise anything like a cure or even decided relief from a distressing and very threatening malady which is practically certain, soon or late, to end through various complications, in disaster, viz., to remove the obstructing tumor. It is just possible that orchidectomy, vasectomy, deligation of iliacs, and the various indirect methods, surgical and medical, may in some cases give some improvement, but that anything like a complete raising of the urinary blockade will follow is as unreasonable to anticipate as analogous methods have been proven to be in uterine fibromyomata. It is passing strange that after such means have been proven fallacious in the one case, their one-time-asserted successes are revamped in exaggerated form to do duty for male castration. However, whatever may be the result in some instances, I know from personal observation that in many cases these operations do not appreciably affect the situation or the actual intravesical enlargement in any practical way.

Surgery which may or may not prove of any benefit appeals little to the patient and less to the conservative, responsible practitioner. That burning or cutting channels through such a mass may greatly lessen the obstruction is quite evident, but that it will radically relieve this class of cases and completely restore the vesical function does not appear rational, and in any event appears more dangerous and disagreeable than open extirpation.

In a relatively sound man, even of advanced years, especially with uninfected urine, a skilfully-executed suprapubic cystotomy is not a procedure of much danger. Experience has shown the prostate and bladder to be strangely tolerant of surgical interference. Hemorrhage, though sometimes troublesome at first, from the veins in and beneath the mucosa, is primarily not serious, and its secondary control absolutely and easily at our command by various methods of gauze packing (Keyes and others). Sepsis would seem to be the greatest danger, but an open bladder constantly drained and, if desired, frequently irrigated, gives the greatest guarantee against it, I believe far greater than perineal incision and drainage, which we know to be safe in comparison to slight injuries of the deep urethra or vesical neck.

I believe that for these selected cases, a skilled technic will reduce the mortality of suprapubic prostatectomy very materially below 10 per cent., which is not a great sacrifice for real relief in the face of so dangerous and distressing a situation.

In about 150 cases of enlarged prostate, I met with but nine cases which seemed to me to be prime cases for enucleation, and in which it was strongly advised: Five submitted, with the following results:[1]

Case 1.—J. W., aged 62, for four years has had increased difficulty in urinating, with a catheter life for the past year. During the past three months there has been increasing difficulty in catheterization. His health has been excellent aside from his urinary difficulty; bladder irritable; urine 1600 c.c., sp. gr. 1025, acid, no casts, no blood cells; no renal lesions. December 3—suprapubic enucleation was done, with the result that up to three and one-half years later there was good health, but urination at times a little frequent. For about one year after operation the bladder showed some irritability, could not hold urine more than three or four hours, but there was no pain nor need of the catheter.

Case 2.—P. H., aged 58, for the past two years has had great difficulty in urinating, many attacks of retention, very difficult catheterization. His general condition was good; little secondary changes in the bladder, which was large and capacious, urine practically normal. Feb. 6, 1894, suprapubic enucleation of prostatic growths was performed. Recovery followed with good health and practically no urinary disturbances to date.

Case 3.—W. F., aged 67, has had slight symptoms for eight or ten years, but no great trouble until the past year, since which a catheter has been necessary much of the time. The organ was sound for one of his age. There was slight catarrhal cystitis, which nearly cleared up by three weeks' preparatory treatment. The kidneys were apparently healthy. In March, 1894, suprapubic enucleation was performed. The result was recovery and urinary condition satisfactory when last heard from, two years after.

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[1] Case 5 is given above.

Case 4.—J. H., aged 60, has had difficulty in urinating, for three years; the past year and a half frequent retention and use of catheter. His general condition has been fair, urine normal in amount, acid, frequently very bloody, especially for the past six weeks. In June, 1896, suprapubic enucleation brought about recovery, though he is still subject to occasional spells of frequency, but there is never any difficulty in completely emptying the bladder, and no pain.

Of the four who declined, I have been able to follow the further course of two. One, after thirteen months' suffering submitted to suprapubic drainage, severe cystitis, phosphatic concretion and renal complications, having reduced the patient to a miserable state and rendered radical operation out of the question. This gave relief for fifteen months more, when he succumbed to urinary sepsis. The other lived only six months, dying, I am informed, as the result of urinary disease. Both of these men were choice subjects for prostatectomy at the time it was advised, as the bladder was not yet infected in either case. The prostatic growths were large, the obstruction rapidly progressive, and the patients otherwise very sound men.

When senile degeneration has rendered the patient surgically *hors de combat,* or when repeated profound infections have crippled the upper urinary apparatus, as is the case in the vast majority of prostatics, in clinic, palliation rather than cure is the only reasonable aim. Cure is no more possible than rejuvenation. True, Brown-Séquard sought to find a measure of rejuvenation in testicular extract; and since, White has proposed to reduce prostatic congestion and bring about atrophy by removing the already failing source of the so recently discovered and quickly forgotten elixir of life, it is not my purpose to discuss this procedure further than to state that I know little to recommend it except that many excellent observers seem to think well of it. If they continue to do so for ten years, I shall be surprised. For the present the conservative practitioner must regard these indirect operations as largely experimental, and for my part, I prefer in incurable cases where the obstruction overshadows the other elements in the case, the establishment of a permanent suprapubic drainage (McGuire, Poncet, etc.), which gives grateful relief. Possibly in some cases Bottini's method may prove useful, though I have no experience with it. Lastly, let us not forget, in our much ado about operations, the comparatively vast usefulness of non-operative management of prostatics. There is undoubtedly merit in the views of Guyon, the unexcelled master and brilliant teacher, that vesicorenal sclerosis is at the bottom of prostatism, only he seems to carry his theories a little too far. Yet it is true that in most cases the prostatic obstacle is not all. Only in rare cases is it merely the single difficulty to be vanquished. In not a few prostatics the hypertrophic growth is quite insignificant as compared with other factors. Indeed, there are subjects without distinct prostatic hypertrophy, whose arteries are sclerotic, whose micturition is feeble and slow, with nocturnal irritability, and a great susceptibility to pelvic congestions and prostatic engorgements. No operative interference can much, if at all, benefit such sufferers.

There are prostatics who, by a little judicious aid and advice, pass through years of comfortable life, with one, or two, or a few retentions. I recall one relieved for two years by a single aspiration of the bladder. Another, carefully catheterized for two weeks, has been getting on without accident or serious discomfort for four years. Scores of cases more or less under observation from three to fifteen years have had their ups and downs after indiscretions, blunders and criminal carelessness, of their own and their at-random-sought advisers, some with periods of intense suffering it is true, but most of them with considerable periods of comparative comfort. Occasionally one drops out directly as the result of his urinary disease, after from five to twenty years' struggle, but how rarely it is we see this except as the result of the grossest transgressions of the simplest laws of sense and surgery—a chronic retention not relieved aseptically, slowly and interruptedly, but septically and suddenly, the oversight for years of complicating stone, the nagging of the bladder by overdistension, septic and bungling catheterization by faulty instruments in ignorant hands. The average prostatic is indiscreet in eating, in drinking, careless of exposures and of the causes of congestion, negligent of bowels and bladder, filthy in catheterization, and promiscuous in his advisers. A charming, intelligent and wealthy old gentleman, with the minor disturbances of the prostate, chiefly some frequency at certain times of the day, who never had to use the catheter nor suffered any pain, but who had casts and albumin in his urine, kept along without a real disaster for five years under occasional advice—chiefly hygienic—until in an evil moment he spoke of the matter to a man who was giving him massage occasionally, as a luxury. The officious masseur advised electricity, and introduced an electrode into the urethra. Cystitis and renal trouble promptly began. We were never able to get the urine quite normal or aseptic again, and after two years the old gentleman succumbed to renal disease and urinary infection.

With few exceptions, the deaths which I have observed at all directly due to enlarged prostate were traceable to very gross mismanagement on the part of the patient or his advisers. It is the abuse of the bladder by prolonged tension and infection that causes most of the distress and final destruction in these cases, and in large measure this is quite preventable by sense, cleanliness and skilful use of the catheter. It is comparatively frequent to find men who have not urinated without a catheter for months and years finally recover the function of voluntary micturition. The bladder being saved from injurious tension, the hypertrophy in advanced age often shrinks. Indeed, it is ordinarily just the prostatic who has early learned to use the catheter skilfully, who usually surprises us by living ten or twenty years—perhaps carrying his catheter in his hat or cane—exhibiting a tolerance against infection marvelous to behold. Doubtless these patients are themselves largely blameable for their mismanagement, but if the profession at large would take the pains to carefully study the indications in each individual prostatic, and see that they were skilfully, patiently and persistently fulfilled, fewer patients would demand surgical relief, and much needless suffering would be prevented.

Stricture of Small Intestine.—The abstract of this article, printed in the Journal of December 9, p. 1486, by an oversight in the make-up of the Journal pages, was erroneously credited as appearing, in the original, in the *Berliner Klin. Woch.* The *Mitteilungen a. d. Grenzcbeiter der Med. u. Chir.* (Jena) contained the paper from which our abstract was made, this publication being abstracted on p. 1487, the same week.

SPLENIC ANEMIA, OR "BANTI'S DISEASE," COMPLICATED BY DIABETES MELLITUS.

BY H. A. HARE, M.D.

PROFESSOR OF THERAPEUTICS, JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

In the *Medical News* of March 27, 1897, I reported several cases illustrating grave changes in the blood. One of these, it will be recalled, was a man aged 24 years, who had a negative family history and a personal history that he had had double pneumonia in 1894, and in the same year had fallen a distance of thirty feet while working in a mine, sustaining as a result of this fall severe injury to his head and neck. He was admitted to the Jefferson Hospital in 1895, with the statement that in July of that year he had begun to suffer from severe pain beneath the clavicle of the left side, this extending downward into the left hypochondria[1]. He was exceedingly pale, his conjunctivæ yellow, and the spleen enormously large. The urine was entirely normal. Later on, an examination of his eyes, by Professor de Schweinitz, revealed hemorrhages in the retina of each. An examination of his blood, a detailed record of which will be found in the *News* as above mentioned, revealed the fact that he had a very great excess of lymphocytes, although the total number of leucocytes was about normal. For a period of two years his leucocytes varied from 8000 to 4000, usually averaging about 6000. But his lymphocytes, on Dec. 25, 1895, were 84 per cent.; the mononuclear cells, 4 per cent.; the polynuclear cells, 8 per cent.; and the eosinophiles, 3 per cent. The red cells varied from time to time from 1,000,000 to 2,800,000. As already stated, the spleen was enormously enlarged.

The patient has been under observation more or less constantly ever since his original entrance to the hospital in 1895, and in the *Medical News* of Dec. 24, 1898, I made a further report concerning his condition over and above that already mentioned. In this paper I noted that on Feb. 22, 1898, he gave a history that eight days previously he had a severe attack of nose-bleed, and that his spleen at this time had become painful. The attack of epistaxis became recurrent. His temperature was normal, his pulse 86, his respirations 22. An examination of his urine at this time, as *on all previous occasions, revealed nothing abnormal.* On Feb. 23, 1898, his color index was 1.25; hemoglobin, 40 per cent.; red cells, 1,620,000; white cells, 7000. It was only on making a differential count that the marked difference between his condition at this time and at previous observations became notable, for now he was found to have 58 per cent. of polynuclear cells; 17 per cent. of small lymphocytes; 19 per cent. of large lymphocytes; 2 per cent. of transitional; 2 per cent. of eosinophiles and 2 per cent. of myelocytes. After a considerable residence in the hospital, he left in much better health, and returned in June, 1898, when his polymorphonuclear cells were 66 per cent.; his lymphocytes, 26 per cent.; eosinophiles, 4 per cent.; transitional cells, 2 per cent.; myelocytes, 2 per cent., and in addition it was noted that there were poikilocytes, macrocytes, microcytes, normoblasts and gigantoblasts. His hemoglobin was 25 per cent.; his red cells 1,800,000 and the white ones 7000.

This patient again came under my observation on Nov. 13, 1898, stating that he had been suddenly attacked two weeks before with a profuse flow of urine; that he presented himself at one of the hospitals of this city, where it had been found that his urine contained large quantities of sugar, and when the quantity of his urine and the quantity of sugar which it contained was measured, he found he was passing ten quarts in twenty-four hours, and was told by a homeopath physician who made the analysis that he was passing a pound of sugar a day. When he learned this, he came to my office in order that I might prescribe for him, and I confess that I was decidedly skeptical when he informed me of the quantities of urine which he was passing and the quantity of sugar which he had been told it contained. I therefore directed him to bring his urine to me, and found that he was actually passing 30 grains of sugar to the ounce. As it was not possible for me to have a blood-count made on the day of his visit, I arranged with him to return the next day, but this he failed to do, and I have not been able to find him since that time. He told me on the occasion of his visit that up to the time of the beginning of this diabetic attack he had gained weight considerably, and had been working for a number of weeks in a barber shop where he was constantly on his feet from 7 a.m. till 9 p. m., and that until the glycosuria developed, he had actually gained weight, and was feeling better than he had felt for a considerable period of time.

This patient's condition always improved very greatly when large doses of arsenic were given him, and his periods of relapse were usually precipitated by hard work, exposure, or poor food. By the use of rest, good food, arsenic and various preparations of iron, he was markedly improved in his condition each time that he was under my observation. Aside from the very curious blood conditions which have been present in him, and which made his case decidedly unusual, the onset of such a profound degree of diabetes mellitus is exceedingly interesting. Whether there is any connection between the two diseases, I am unable to state, and so far as I know, no reports are on record in which the two conditions existed side by side.

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[1] See photograph of patient, with size of spleen outlined, in the Medical News, March 27, and in the author's book on Diagnosis.

DIAGNOSIS OF INTSTINAL PERFORATION BY MEANS OF ETHER INFLATION PER RECTUM.*

BY E. M. SUTTON, M.D.

PEORIA, ILL.

About two years ago I conceived the idea of utilizing ether vapor as a means of diagnosing intestinal perforation, and made some experiments therewith, the results of which were published in the JOURNAL, vol. xxxi, p. 191. I now desire to report a practical application in the case of a gunshot wound of the abdomen.

Mrs. S., on the morning of Sept. 1, 1899, was shot in the abdomen with a 32-caliber revolver, from a distance of about ten feet. The external wound was two inches below and one inch to the right of the umbilicus, taking an upward, inward course through the very thick walls. She suffered from shock, but not severely; after removal in the ambulance, to St. Francis Hospital, and placing her on the operating table, nausea developed. The bowels were then inflated with the vapor of ether and the infiltration continued until the patient belched ether from the stomach—readily recognized by Drs. DuMars and Studer and myself—and the diagnosis of penetrating wound of the abdomen without intestinal perforation was made.

The ball entered the peritoneal cavity, passed above the liver, injuring the diaphragm, and buried itself in the tissues behind. Clots were removed and further search stopped as very slight pressure on the infiltrated diaphragm caused instant cessation of respiration. The wound was closed and uneventful recovery followed.

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*Read before the Peoria Medical Society, Sept. 5, 1899.

I show the apparatus used and think all will agree that the method is practical and simple, being at hand in any locality—a bicycle pump, a bottle, and rubber tubing or catheters answering every requirement of the aspirating set here shown; about ℥ii of ether in the bottle being sufficient for the inflation.

The patient experienced no trouble from the inflation, aside from a sense of fulness, and I feel quite satisfied with the method and ask that it be given a trial in case perforation is suspected or feared. The rectal tube should be passed as high up as may be necessary, the rectum first cleared of feces, if obstructed, and before inflation is started wet gauze should be wrapped about the rectal tube at the anus and firm pressure made to prevent the return of the ether from below. If perforation exists, the abdomen is more quickly distended and the smell of the vapor recognized coming from the injured intestine; otherwise the intestine gradually distends and the vapor reaches the stomach, from which it is eructed and recognized by the smell. All sources of leakage from the apparatus should be carefully recognized and the lower part of the body covered so that the exact location of the ether odor may be determined.

SOME PHASES OF INTRANASAL SURGERY.*

BY G. V. WOOLEN, M.D.
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The development of intranasal surgery is so modern and unique that it is not strange that many are not only unfamiliar with its details, but are likely to misjudge its character and necessities. This distrust is not altogether unmerited. Certain procedures have been suggested and used for a given condition, and through habit, or otherwise, their use has been extended to other conditions without any apparent reason. Enlarged turbinate bodies have been cauterized simply because they were enlarged. Septal spurs have been sawed away because they were spurs, polypi have been removed simply because they were polypi, etc. Such looseness of theory, if such it be, and the practice which has sprung from it, have deservedly led to this distrust. An army of incompetents has sprung up all over the country. Many with little or no preparation are operating indiscriminately.

Anatomic and physiologic as well as pathologic laws should govern every operation. It has seemed to the writer that much confusion and controversy have occurred because of the want of proper consideration of what should be regarded as a normal nose and of the distinction between a temporary and a permanent obstruction or lesion, the one amenable to local and constitutional mediical treatment, the other requiring surgical measures in addition.

An ideal naris has not been described, and indeed can not be, for what might be an ideal one for one person would not be for another, no two persons having nares strictly the counterpart of each other. Nares which would be sufficient for one person would be insufficient for another. The operator, however, should always be able to determine what would be the ideal condition for each individual naris. In a capacious one there may be hypertrophic tissue, or deformed septum, not needing surgical treatment, but enough to greatly block and otherwise disturb another of smaller caliber. Many persons have large noses with small nares, and vice versa. In all nares, however, certain outlines should exist, notably a septum situated more or less perpendicularly and dividing the two nares into equal parts, thinnest in the central region, and thicker near its attachments above and below, thus rendering its sides somewhat concave. The concavity of the septum, matching that of the outer wall of the naris, makes the cavity an irregular oval opening. There should be no deviations or deflections of the septum or spurs or longitudinal projections along the sutures, such as would press on the turbinate bodies or sides of the nares, or would encroach on the capacity of the nares so as to interfere with their functions.

The turbinate bodies springing from the sides of the chamber should begin in comparative nothingness in front, and gradually enlarge to terminate abruptly posteriorly, but they should not be larger at termination than half an inch in front of the termination. The anterior tip of the middle turbinate body is a slight deviation from the others, beginning abruptly; it is thin and overhangs the infundibulum. These bodies should have the characteristic turbined shape, but should in no case impinge on the septum or on each other or so as to press on the outer wall of the naris in the central or posterior regions.

It has seemed to the writer that the chief operative measures in the nares should be for one or more of the following purposes: 1. To restore nasal respiration and relieve disease of the respiratory tract. 2. To aid in the drainage of the nose, or the accessory cavities, or possibly both. 3. To remove pressure irritation. 4. To remove local hyperesthesia. 5. To render local medication possible and successful. 6. To relieve auditory difficulties. 7. To remedy voice difficulties. 8. To remove malignant diseases.

It will be well to examine these purposes individually.

1. *To restore nasal respiration and relieve disease of the respiratory tract.*—The woful want of recognition of the nose as a respiratory organ primarily and chiefly is not confined entirely to the laity. When our anatomists cease describing the nose, in the latter part of their books, as the organ of the special sense of smell, and connect it with the all-important function of respiration, then a large advance will have been made toward a just recognition of its importance and its infirmities.

Man may do without food, raiment, water, sleep, and in fact all of the so-called essentials of life, for an indefinite length of time, but he can not do without breath, except for a minute or two. A study of mouth-breathing will soon convince a close observer that one can not secure air enough that way, not to mention the many morbid processes which are brought into existence by it. The mouth is not a breathing organ. Mastication and speech are its associated functions, as respiration and smell are the associated functions of the nose; the first-mentioned function in each organ being the most important. The mouth, unlike the nose, is not endowed with facilities for preparing the air for the lower respiratory apparatus, i. e., moistening and purifying the air and regulating its temperature. If the inspired air is not properly prepared the delicate lining membrane of the lower respiratory apparatus is irritated and spasm or resistance and insufficient inflation result. Therefore, all necessary tests should be made to determine in each case whether the patient is able to breathe through the nose, not forgetting to ascertain especially whether it is able to breathe thus when asleep in the recumbent position, for then gravity loses much of its control over the nasal circulation, and tissues are flooded and swollen which might not otherwise be obstructive. If it is ascertained that the patient does not breathe solely through the nose when asleep, the lower or respiratory tract of the nose should be closely scanned throughout, and the redundant tissue, whatever and wherever it may be, should be so reduced as to allow such freedom of nasal respiration that the patient may sleep with the mouth closed. Thus relief will also be obtained for most of those intractable cases of chronic pharyngeal, laryngeal, tracheal and bronchial disease so often associated with the so-called habit—but in fact necessity—of sleeping with the mouth open.

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*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

2. *To aid the drainage of the nose and its accessory cavities.*—Few doubtless know or consider that in health from one to two pints of fluid are discharged each twenty-four hours through the nasopharynx, from the nose and its accessory cavities. The discharge is so liquid as to flow away silently and unobserved, as does the saliva from the mouth. But when the parts secreting this are overtaken with disease, which thickens the secretion, and especially if the parts are obstructed by any of the various forms of proliferated tissue, previously stated, this outflow is arrested, increasing obstruction and distress. This secretion being highly albuminous makes a good culture-medium for bacterial infection, and doubtless is the beginning of other troubles manifested in various ways, as well as an assistant in the production and maintenance of the disorders already noticed.

The process of purifying the air by arresting the various foreign and noxious substances in the mucus, as the insect is caught in the fly-paper, renders this liable to great contamination, and unless it is carried away promptly to the stomach and neutralized by the digestive process, it soon establishes local results in the form of sepsis, which is found so often in a hurtful degree. Any obstruction, therefore, to the drainage of the nose or to the orifices of the accessory cavities should be dealt with in accordance with the accepted surgical rules. Empyema of these cavities now receiving so much attention, not only demands such, but is doubtless at times produced for the want of it.

3. *To remove pressure irritation.*—Much has been written on reflex disease, and not a little of it has been in relation to nasal troubles. No one is prepared to deal with intranasal disease who is not familiar with the normal and nasal sensitiveness amounting in health almost to a state of hyperesthesia. The nose is richly endowed with nerves of sensation, closely resembling in this respect the eye, from whose socket it receives its chief nerve of sensation. The nares are bony cavities, and therefore of a given capacity. They are divided and subdivided by septum and turbinate bodies; but are presumed to be symmetric, as other dual organs, with parts not encroaching on each other. These divisions are distinct, but not capacious. No great derangement of these parts can occur without producing pressure irritation involving sensitive tissues, doubtless already diseased and thereby rendered hypersensitive. We are familiar with pressure irritation of tissues not specially sensitive, producing immediate and remote results. Here, however, we have an exceedingly interesting train of phenomena presented in the character of migraine, supraorbital neuralgia, hemicrania, orbital and ethmoidal pain, basilar headache, asthma, hay-fever, etc., as the result of the pressure of highly sensitive tissues. Whether the explanation be that the process is reflex, or idiopathic, or symptomatic, the fact exists that many of these cases, otherwise uncontrolled for many years, have either been cured or greatly relieved by the removal of offending parts, whether tips of turbinate bodies, projections of septum, spurs or polypi.

4. *To remove local hyperesthetic tissues.*—Closely allied with the condition of pressure irritation, and often blended with it, is hyperesthetic tissue, which, when irritated with highly vitalized pollen, pungent odors, or irritating dust, is goaded into a state of aggravated irritation, leading to the greatest discomfort, often regarded as an acute cold, but more notably recognized in the so-called hay-fever. This tissue may exist, as intimated, without pressure, and may not cause obstruction, but it is always aggravated by such condition. That hyperesthetic areas exist there can be no doubt, and their destruction often cures or greatly relieves these conditions. The cure or relief, however, depends on a most painstaking scrutiny of the nares, especially the anterior region supplied with the nasal nerve, followed if necessary by frequent but not deep destruction of these areas, great care being taken to localize the destruction to the immediate tissue involved.

5. *To render local medication possible and successful.*—Great disappointment has often been met from medical treatment of the nose and nasopharynx, not because of the want of selection of proper medicaments, or of the methods of application, but largely, if not wholly, because the remedies never reached the diseased parts. Cases of this kind probably amount to at least 75 per cent. of those which consult a rhinologist. Why this fact has not been dwelt on more by writers and teachers I can not say, but that it has led to disappointment and unbelief, as to the curability of intranasal disease by many, I am well persuaded. Spraying, douching, irrigating, fumigating, insufflation, unguents, and pigments, even when administered with the modern appliances which have taxed human ingenuity to its utmost, can not reasonably encourage us to hope to reach cavities so inaccessible, if obstructed, as we often find them. Provided the parts can be reached, the difficulties in the therapeutics of this region are not in marked contrast with other parts of the body, and medication should not be specially difficult, unless influenced by an apparently excessive tendency to the development of the hypertrophic process. As this principle of direct application is so much insisted on in other departments of medicine, one would think it would be equally so here. A local treatment, otherwise excellent, will often and necessarily fail for want of its recognition.

6. *To remedy auditory diseases.*—The pneumatic function of the middle ear is carried on through the Eustachian tube. The volume and density of the air delivered through this tube are regulated by the supply through the nose. The tube is simply an adjunct conveying this air to the middle ear, and is controlled by the muscular apparatus situated at its inner orifice, and as we know, acts in concert with the respiratory function of the nose. An absolute essential to the normal function of the ear is its free inflation from nasal respiration. Much of the so-called tubal obstruction from extension of catarrhal inflammation is simply collapse of the tube from want of functional activity as the result of non-inflation. Artificial inflation proves this, but seldom gives permanent relief, the cause not being removed. The rarefied air is forced out and, not being replaced, the colder air tries to enter through the external tube, and the indrawn membrane with all its evil consequences is the result. This is often so markedly true as to be confined to the ear on the side in which alone there is nasal obstruction. Doubtless no results are more conspicuous from intranasal surgery for the removal of obstructions, especially if early attempted, than the relief of various auditory troubles. Whatever may be the view regarding the inception of the process, whether *ab initio* in the ear or by extension of the catarrhal inflammation to the middle ear from the nasopharynx, insufficient inflation of the middle ear soon plays an important rôle.

7. *To remedy voice difficulties.*—The phonatory function of the nasal cavity being such an accessory to the laryngeal element, it becomes doubly necessary that it be relieved of obstructions whenever interference is apparent. The same conditions which disturb the larynx and its auxiliaries also disturb this function, and consequently difficulties of phonation often are removed only by resorting to the same process as for those of normal respiration. To relieve the organ is to relieve its function. Moreover, by the constant irritation and congestion of the laryngeal tissues from mouth-breathing, a condition is established that is inimical to good voice production and is relieved only by removing its cause.

8. *To remove malignant disease.*—This purpose is so apparent that it needs no discussion.

There is not a little clamor about the sacrifice of the mucous membrane in modern intranasal surgery, but it should be remembered that the surgery is for the relief of the conditions mentioned above, and because of the excess of tissue. The hypertrophic process involves the periphery as well as the underlying tissues, all needing reduction in due proportion. The "tunneling of a passage through the nose and sacrificing whatever tissue might be encountered" certainly is "absolutely unjustified," but an intelligent discrimination having regard to the ideal condition of the individual naris should guide the operator as to what and how much should be removed, even though it be a part of the pendulous hypertrophy of the turbinate bodies, with their much vaunted physiologic function.

It may be stated almost axiomatically that a good nose means a good throat, and that idiopathic pharyngitis, laryngitis, tracheitis and bronchitis are delusions, and are consequents of the conditions which have been described.

Forfeit Contract with Specialist. It is announced in the *Bulletin Medical* that the municipal authorities of Paris have made a forfeit contract with a "specialist," to rid the city of rats before the opening of the exposition, and he is now successfully at work on the sewers.

THE WORK OF THE AMERICAN PHARMACEUTICAL ASSOCIATION IN RELATION TO THE MATERIA MEDICA OF THE FUTURE.[*]

BY F. E. STEWART, M.D., Ph.D.

NEW YORK CITY.

On account of the high degree of learning and skill required in its practice and the philanthropic nature of the calling, medicine is classed as a liberal profession. The primary object of medical practice being to discover and remove the causes of disease, and secondarily to cure those who are afflicted, it is also classed as a philanthropic profession.

Because of the great extent of the evil to the community resulting from ignorance and incompetency in the practice of the medical arts, entrance to the medical profession is hedged about with protective laws. Those laws are destined to limit the vocation to persons who are specially educated and trained for the practice. If the actual effects of ignorance, cupidity and pretence could be plainly stated, it would be instantly seen that a vocation in which health and life are at stake is in need of such systematic regulation. The people are quick to see dangers affecting property and recognize the necessity of guarding the public from ignorant and dishonest lawyers, but they are slow to comprehend that there is equal necessity to protect themselves from the charlatans and quacks, and so there are some who consider medical laws as objectionable class legislation.

Pharmacy, or the science and art of preparing medicines, is dependent on therapy, or the science and art of applying medicine to the cure of the sick. It is therefore a branch of medical science, can not be classed as an independent profession, should be in close fraternal relations with therapy and be recognized as a branch of medical practice. It should be conducted in the same liberal and beneficent manner as the practice of medicine, as a liberal and philanthropic profession. Entrance to the profession of pharmacy should be hedged about with restrictive laws similar to those governing the entrance to medical practice. Pharmacy laws should protect the public from ignorance, incompetency and cupidity in the preparation, compounding and dispensing of medicine. These laws should be so constructed and enforced as to regulate and control pharmaceutic practice, forcing those who are engaged in the vocation to conduct it along professional lines. The manufacture and sale of medicines should be strictly limited to educated pharmacists.

Materia medica is the name given to the collection of substances used in the treatment of the sick. It is self-evident that these agents should be so prepared as to fit them in the highest manner for the purpose for which they are intended. Recognizing this fact, the medical and pharmaceutic professions assemble in congress once in ten years for the purpose of revising the list of medicinal agents prescribed by physicians, and determining how best to prepare them for use. This list is called the "Pharmacopeia." A pharmacopeia is defined as an authoritative list of medicinal substances, with definitions, descriptions, or formulæ for their preparation. The necessity for authoritative standards to define the character, establish the purity and regulate the strength of medicines, is recognized by all civilized nations. Countries having no national pharmacopeia adopt the standard of other countries, or supply standard pharmacopeial works for the same purpose. The pharmacopeias of all nations, except those of the United States, Mexico, Chili and Greece, are issued under the authority of the respective governments, and therefore partake of the nature of laws. The "United States Pharmacopeia" was originally devised, and is decennially revised, by a committee appointed from the professions of medicines and pharmacy. It should be a truly representative list of drugs and preparations employed in therapeutics.

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[*] Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Before a medicinal agent can be made official in the "United States Pharmacopeia" it must conform to the requirements of medical science, which are that each drug, chemical and preparation shall bear a name which shall belong to and identify it; shall mean the particular thing, kind and variety of it, and nothing else, and the name shall belong to the common language and not be the private property of any individual, firm or manufacturing house. Science also requires that exact knowledge of the substance shall be published in language sufficiently explicit to permit of its complete recognition. In relation to preparations of drugs and chemicals, a complete knowledge of ingredients, percentage-composition and method of preparation must be published, so as to permit their duplication at any time by those skilled in the art of pharmacy and chemistry. Unless these requirements are complied with there is danger that the pharmacy of the preparations may become a lost art, and the preparations themselves finally disappear altogether. The effect of this on the literature of medical science would be to make such literature to that extent unintelligible to future generations. Medical science demands that the literature of therapeutics should be protected from any such danger, so that physicians a thousand years hence reading the same may know what is meant by the names referring to medicinal agents used in treating the sick by physicians of the present day. If we fill our medical journals, text-books and pharmacopeias with meaningless terms claimed as the private property of individuals or firms, we will deservedly draw down on us the contempt of future generations.

The practice of pharmacy as a profession, in the meaning of that word as understood by the medical fraternity, is impossible except under restrictive laws which shall prevent anyone from employing commercial methods in its conduct. By commercial methods I mean to include secrecy either as to source, nature, composition or method of preparing medicinal agents, and the creating of a demand by circulating advertising matter in contradistinction to scientific matter. By advertising matter I mean *ex parte* or one-sided evidence intended to create a demand regardless of the true therapeutic merits of an agent compared with other therapeutic agents employed for the same purpose. It is said that in case such restrictive laws are presented to our lawmakers for consideration, the opposition will not be confined to the manufacturers of secret nostrums or the daily newspapers, but will also come from sources from which many would expect the strongest endorsement. Be this as it may, we must admit that the medical profession and the medical press are not free from fault in the matter. Physicians should not habitually prescribe medicinal agents which do not conform to the requirements of science, and the medical press should educate the profession to know what those requirements are and aid in enforcing them. That the press has neglected its duty in this regard no one who has had experience as a medical journalist will attempt to deny.

As pharmacy can not conform to scientific and professional requirements until the members of the medical profession discriminate, in prescribing, between medicinal agents known to science and those which are not scientifically defined, it stands to reason that the ado raised about commercialism in pharmacy is not only absurd, but savors somewhat of hypocrisy. In the light of the above it is idle for the profession to say that "while it is true that many of the agents prescribed are unknown to science, their active ingredients and their quantitative proportions have, according to the statements of their manufacturers, been published with sufficient exactness to enable physicians to prescribe them in a proper manner, and the method of manufacturing them concerns us not." But it does concern us, for, although many of the articles belonging to this class are valuable medicinal agents, yet, until their working formulas are published and standards established for their identity and purity, they cannot be made official in the Pharmacopeia, for they do not conform to scientific requirements.

It is evident that it will be a long time before the ideal can be realized in which the medical profession is sufficiently educated in pharmacy to discriminate between what may be classed as scientific pharmaceuticals on the one hand, and medicinal agents monopolized by secrecy on the other; in which the pharmaceutic profession ceases to conduct its vocation as a commercial business and carries it on as a liberal profession; in which the public is sufficiently educated to pass and enforce laws preventing anyone from practicing pharmacy as well as therapy unless properly educated and trained for these vocations; and in which the professions themselves shall take measures to expel from their ranks those who practice therapy and pharmacy unworthily. Yet in the meantime a step in the right direction can be made by sending to the next convention for revising the Pharmacopeia, which meets in Washington, in 1900, a representative delegation of physicians and pharmacists who shall make the next Pharmacopeia truly representative of the materia medica by adding to its pages many things which are extensively prescribed, and leaving out a great deal of matter which is no longer of sufficient value to be retained.

It is idle for the medical and pharmaceutic professions to say that a great many of the medicinal agents now extensively prescribed do not conform to the requirements of science, and therefore can not be made official in the "United States Pharmacopeia," for the combined professions have sufficient power to force all manufacturers of medicinal agents to conform their preparations to scientific and professional requirements. Moreover, it is a duty which the professions owe the public and, if it is properly done and the next Pharmacopeia becomes what it should be, the public will begin to realize the importance of proper legislation on this account.

Owing to the rapid strides of knowledge and the constant additions to the materia medica resulting therefrom, ten years is a long time to wait for the revision of the Pharmacopeia; and it seems to me that the committee on revision could serve the professions by publishing a year-book, in which should appear all those additions to the materia medica which conform to scientific requirements, as they are made from time to time. By so doing physicians and pharmacists would have some means of knowing what progress is being made in the knowledge of materia medica. It would not be necessary for physicians to prescribe anything not listed in the year-book, except it be for the purpose of original research of some of the newer things before they appear in the year-book. But such prescribing should be the exception and not the rule.

The American Pharmaceutical Association endeavors "to encourage such proper relations among druggists, pharmacists, physicians and the people at large, as may promote the public welfare; to improve the science and art of pharmacy by diffusing scientific knowledge among apothecaries and druggists, fostering pharmaceutic literature, developing talent, stimulating discovery and invention, and encouraging home production and manufacture in the several departments of the drug business; to prevent, as far as practicable, the evils flowing from deficient training in the responsible duties of preparing, dispensing and selling medicines; to suppress empiricism, to restrict the dispensing and sale of medicines to regularly educated druggists and apothecaries, and to uphold standards of authority in the education, theory and practice of pharmacy." These objects, stated in the Constitution of that Association, if carried into effect, would bring the medical and pharmaceutic professions under one flag—the flag of science and professionalism, and convert the practice of pharmacy into a liberal profession as a branch of medical practice auxiliary to the practice of therapy. Harmonious fraternal relations would be established between physicians and pharmacists, and secrecy as to the composition or method of manufacturing medicines would come to an end. Therefore, what I have just advocated is in line with the work of the American Pharmaceutical Association as described in its constitution.

For several years past that Association has been making special efforts to carry out its high ideal. A committee on national legislation was appointed for the purpose of making a special study of some of the laws affecting the relations of pharmacy to medicine and the pharmacist to the physician. As chairman of that committee I beg to call your attention to this work, with the view of asking your aid in our effort to make pharmacy of the future what it should be, viz., a branch of medical science.

DO WE OBEY THE CODE OF ETHICS.*

BY R. G. ECCLES, M.D.

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The laws of ethics are as firmly fixed in the nature of things as are the laws of astronomy or of chemistry. Disobedience to their mandates is as certain to bring disaster to those who disobey as disregard of the law of gravity brings pain and suffering to those who try to walk over a precipice. Every true law of ethics is fundamentally fixed in the make-up of society and is in no sense a mere empiric order of things without adequate reason. Whenever we disobey such a law we do so at our peril. Good conduct is conduct that comports itself in such a way as to lead to the highest social good. It is conduct that harmonizes with the best interests of society. When certain lines of conduct are interdicted by our fellows we may be quite sure that it is now, or at some time in the past was, against their highest accepted interests. At one time in the history of the world it was considered a great wrong to take interest for the use of money. Then it was a decided evidence of unethical selfishness, because society was so constructed that whoever had an excess of money was unable to himself use it. To withhold it from a friend was an act like that of the dog in the manger, who could not eat the hay himself and would not let those who could. As society is now constructed, money is in constant demand, and every person can use all he gets hold of. When interest is now demanded it is merely to make good to the owner the highest possible amount he would be likely to realize on it should he undertake to use it himself. To ask him to lend it to you without interest would be to ask him to give you that which would injure himself, and this, it is evident, would be decidedly unethical. This is but one of a multitude of cases that could be given where social changes make what appears to be the same act ethical in one age that was decidedly unethical in another. The bad ethics of the thing was not in the act but in the spirit and conditions that existed when the act was committed. To charge interest among nomads and other partly civilized races is decidedly against the social good. To charge interest in a highly civilized community encourages investment and leads directly to the public good. There are some misguided people who fail to appreciate the fact that changed conditions may make an act bad that was once good and one that was once good decidedly bad. But to state a position like this is decidedly dangerous unless it is safeguarded by the distinct qualifications that no one should for a single moment let go of any ethical formula or code that he has used as his guide of conduct until it has been proved to him not only that that formula is leading to social results that are unquestionably bad and that its readjustment would lead to results as decidedly good. In other words, it must be proved that that which was once formulated as ethical has become unethical. Of course, long before this can be done the conduct of those who think they are strictly following such a code will have so changed that they will be found to be violating its letter daily.

For years there has been a great outcry against the "Code of Ethics of the AMERICAN MEDICAL ASSOCIATION," by a large number of influential physicians, on the ground that it did not give sufficient freedom to them in certain lines of conduct they wished to pursue. With these attacks the writer has no sympathy. These men have made no serious attempt to show that the Code in any of the sections complained of disagrees in the slightest with the highest demands of morality. As a rule their objections are based solely on the commercial advantages that a change might bring to them. To permit of a violation of the Code in the matter of advertising and of consultations with quacks and avowed sectarians without a long and loud protest by the best men of the profession would be a bad thing not only for medical science but for civilization as well. Both of these features of the Code are true to scientific ethics and therefore true to the best interests of humanity. To take the Code as a whole it would be hard to suggest any serious improvement in its leading features, but this should not blind us to the possibility that in some of its minor details it might be improved. In one particular feature the writer is inclined to the belief that a single word is at present vitiating what is otherwise a most excellent section. When the Code was adopted, in 1847, no possible exception could have been taken to the presence of that word as it now stands. Then the whole section reflected the purest spirit of true ethics. Now, so altered are conditions that what was then pure, just and moral hardly seems to any longer merit the claim to these characteristics. The section to which reference is here made is found on page 612 of vol. xxxiii, of the Transactions of the Association, and reads as follows: "Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret *nostrum,* whether it be the composition or exclusive property of himself or of others. For, if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone gives it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." Whoever framed these words clearly saw the danger that menaced medical science in the exploitation of secret medicines. There can not be a doubt in the mind of any reasonable man, who is not blinded by self-interest in connection with such remedies, that they are the bane of modern practice. Secrecy and science are, and forever must remain, sworn enemies. They are absolutely and irrevocably incompatible. To encourage either is to discourage the other. A victory for secrecy is a death-blow to science, and a victory for science is a death-blow to secrecy. Where secrecy rules supreme science can not exist, and where science rules supreme secrecy can not exist. Revealed facts constitute the whole of science, while hidden facts are the foundations of ignorance, vice, savagery and anti-science. Secrecy in medicine is a loving of darkness rather than light, because its deeds are evil. A successful secret remedy is like a beautiful harlot, immeasurably more dangerous than an unsuccessful one. It is, in proportion to its success, a greater and greater enemy to science. Like a pretty wanton it the more certainly leads honest physicians to become traitors to science and enemies to human progress Imagine how this world would have been to-day if everyone who made a useful discovery had kept it to himself. Think of a Newton, a Volta, a Dalton, a Lavoisier, a Black, a Pasteur, a Tyndall, a Kelvin or a Maxwell locking up as private secrets their discoveries as the secret nostrum vendors do their "real" or pretended ones. The very thought of such a thing is depressing. A race of such creatures would only be worthy of contempt and would well merit the misery they would bring on themselves. When medical men learn loyalty to medical science they will quit prescribing such remedies. Every prescription calling for a secret remedy is at once evidence of treason and confessed ignorance on the part of the prescriber. To say that it is reprehensible for physicians to give certificates attesting the efficacy of secret medicines is putting it very mildly when we consider the nature of the offense. In May, 1847, when the Code was adopted, all medicines then known as patent medicines were mere mixtures of drugs for which false and misleading claims were put forth as to their therapeutic worth. They only differed from the non-patented secret nostrums in that a pretended formula was filed away with the custodian of patents at Washington. Pitcher's castoria was among the last of the nostrum patents taken out, and it is not likely that the future will see any more of them. The proprietors of this, having seen that a great mistake was made in having anything to do with the patent office, now wish to baffle, in the courts, all who try to get out other Pitcher's castorias, by confessing that the article that they sold as Pitcher's castoria was not made according to the patent specifications. The growing carefulness of the patent examiners and the danger attached to all patents of becoming public property at the expiration of the time allowed for patents to run has caused these men to quit taking out patents and to depend solely on secrecy to help them hoodwink the public. The patent that in 1847 helped them to appear as if half-way respectable because of its giving them a sort of quasi-endorsement of the Government, has now become a sort of fiery furnace through which they no longer dare travel. The therapeutic monstrosity then known as a patent medicine is now practically extinct. There may be one or two of them in existence, but it is doubtful whether a single specimen remains. The secret nostrum has taken their place! With the protection afforded by a copyright the interests of their proprietors are far more thoroughly preserved than they could be with a patent. But they have differentiated now into two distinct classes: 1, those sold only on a physician's prescription, and 2, those advertised and sold to the public direct. The first class has dared to call itself "ethical." Why? Because, forthsooth, it is only advertised among medical men. Did it ever occur to you what this means? Have you seen the depth of the horrible insult which it implies? Do you not see that this is equivalent to asserting that all medical men are selfish pretenders, whose Code of Ethics is a hollow farce and whose sole aim in practicing medicine is the accumulation of dollars. It means that they believe you want a monopoly of the distribution of their goods and that when you get this your qualms of conscience against nostrums are at an end. It means that they think you are a mere hypocrite whom they can quiet with a bribe of this kind. "Ethical" indeed. The very quintessences of unethicality are secrecy and fraud. Wherever one or both of these exist we have something that is unethical, however carefully it may be kept for physicians' use only. To attempt to bribe doctors prescribing it because it is not advertised in the lay press is but to add insult to injury and crime to crime. What doctor ever considers it unethical to prescribe glycerin, bicarbonate of soda, starch, sugar or other ethical remedy because he happens to see some one advertising such goods in the public press. A drug is neither rendered ethical nor unethical by where or how it is advertised. It is rendered unethical by being of secret composition or being lied about, as to what it can do in a therapeutic way. A doctor who can not see into what constitutes ethics any better than to pronounce that ethical that gives him a monopoly of its disposal has certainly a very inadequate conception of the subject.

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Since the patent office became so strict in its examinations that fraudulent claims can scarcely ever if at all pass, it has become the friend of science and the foe of secrecy. It is now no longer a cloak for fraud. Medicines are now made by patented processes that every member of the American Medical Association is constantly prescribing. Patent medicines of this kind are perfectly ethical. Among them we can name chloroform, salicylic acid, benzoic acid, and sodium salts. If we strictly interpret the Code as it reads, then it is reprehensible for us to attest to the efficacy of these or in any way promote their use. Who, then, obeys the Code? Surely no such meaning was ever intended by the writer of this section nor by the convention that adopted it. There is scarcely a remedy we use that might not at some time, if it does not now, come under condemnation by so loose a construction of the sentence. Any patented improvement in method of making that happened to give to some one firm a monopoly for a few years would compel us all to quit prescribing the same or encouraging its use in any way. But there is another class of patented medicines that would be also affected by such an interpretation, although they were wholly unknown when the Code was adopted. Surely they could not have been meant. Or did the compilers of the Code foresee their advent and attempt to provide against them. If this is so it was a rare piece of prevision. These are non-secret, newly discovered remedies of definite chemical composition. It was long after 1847 before the first of these was known. It does not, therefore, seem reasonable to assume that the Code had any reference to them. This, however, does not hinder our condemning them if they are in any way antagonistic to the fundamental tenets of pure ethics. It simply hinders us from reasonably making the mere words of the Code our authority for opposing them. The Code certainly forbids physicians from holding patents on surgical instruments or medicines. Why? Unless we know why this prohibition was put on physicians holding patents we can not know whether or not it applies to the case we are considering. The Code nowhere declares patents per se to be unethical. When Professor Behring undertook to take out a patent on antitoxin every clear thinking medical man condemned it as unethical. Why? Because it is contrary to the fundamental policy of our profession. Behring, being a doctor and having pretended all along to be following the open, liberal policy of doctors, perpetrated a fraud on the profession when he sought for a patent. When he received the praise of the profession for what he was doing he was all the time living a lie. He should have forewarned the profession of his intent, not taken their assistance in work which he intended to monopolize. He should have refused the medal of honor of the French Academy. A medical man who takes out a patent on a medicine or instrument is in a wholly different position from a layman who does the same. He should give up the profession before doing such a thing, so as not to deceive his brethren into robbing themselves of time and effort to help him in his personal ends. It is in no sense unethical to own a patent, but it is unethical to deceive, cheat, misdirect and misrepresent to the world, implicdly or otherwise, what our motives are in our conduct. This is what a patent-holding practitioner of medicine can scarcely, if at all, avoid doing. With laymen it is different. With a retired physician who takes out a patent it is the same as with a layman. Neither of them are acting deceitfully and therefore unethically. Some may hold that the unethical element of the transaction is in the holding as a piece of private property something which the sick should have free of cost. Such a doctrine if carried out logically would lead directly to pure communism and it is hardly likely that the composers of the Code were all communists.

The test of the ethicality of any measure is its being in accord with social good. Is the granting of patents a benefit or an injury to society? Every patent by virtue of being a patent, is not a secret. Its character is fully known. It becomes public property in a few years. Does it pay society to grant patents? Surely no one will deny the fact that the patent office is the greatest stimulant of discovery and invention in the world. Patents granted on anything stimulate discoveries in the direction of that thing. In the patenting of a synthetic remedy we compel workers to divulge the secret of how they prepare that remedy, and encourage others to devote time, brains and money toward the discovery of other remedies. Shall we become moral pirates and rob them of all these? Shall we put up barriers to forbid the production of such good things? Shall we, in other words, become, in the name of ethics, encouragers of secrecy, enemies of medical science, robbers of the labors of others and filcherers of their invested accumulations? These men never could devote their time, talent and capital to such work if they did not hope to get it back with interest. Stop the taking out of medical patents on goods of this kind and you will stop medical progress. A little work will go on just the same, but the discoveries will not be divulged. The world will be the poorer and the victory will be against and not in favor of ethics. Not one of us would do what in the name of a spurious ethics, we ask them to do. But, some one says, these remedies are getting so numerous we do not know what to do with them. Have you never heard of the fundamental law that governs evolution? Do you not know that in the struggle for existence the fittest survive? Did it never occur to you that this embarrassment of riches is a blessing? If you as medical men leave the struggle entirely in the hands of commercial interests there is nothing more certain than that the house that spends the most money advertising its wares will beat those with the best goods. It is our duty as medical men, and particularly as members of the therapeutic section of the American Medical Association, to direct this struggle by taking part in it. If, instead of holding aloof from the fight and saying "let the best man win," we should undertake to sift the mass and commend in our loudest tones the best, such a course would end in making therapeutic worth and not pretty advertisements the selecting power of fitness.

Father Not Obliged to Pay for Treatment.—Edelman vs. McDonnell is the title of an action that was brought to recover payment of a bill for medical services. Father and son were defendants. The services consisted of divers consultations, house visits, office visits, surgical operations, and surgical dressings extending over a period of six months. They were rendered in pursuance to the request of the son—who was not a minor—while the first consultation was in progress. But the plaintiff alleged that at divers times thereafter during the treatment the father made statements to him which led him to believe, and from which he did believe, that the father would pay for the treatment, and that he relied on such statements, and gave credit to the father as well as to the son. However, the statements and promises of the father were not in writing. And while the court rendered judgment against the son, it also rendered judgment against the plaintiff and in favor of the father. From this latter the plaintiff appealed. But the supreme court of California affirms the judgment of the lower court. First of all, the supreme court says that it was not shown that such statements were made as would justify the belief that the father would pay for the treatment, or that he intended that they should be so understood, or that the services would not have been rendered had such statements not been made. Perhaps, the court suggests, the statements consisted in expressions of interest in the case, or were express oral guaranties of his son's solvency. Then, it says, it was not found what services were rendered after the promises to pay were made at divers times during the treatment. The first contract of employment having been made with the son, these promises were only to pay his debt. Again, the court points out that it did not appear that the son was living with his father, or was being supported by him. For aught that appeared, they may have been living apart for years, and the son may have had his own family and business. Had the father been taking care of him, and actually supporting him as though he were still a member of his family, as minor children generally are of their parents' family, the court adds, the presumptions might have been very different. It also remarks that it understands that a contract which a physician makes with his patient whose case he undertakes is usually one contract for the entire work. This, however, it pronounces immaterial in this case, for the reason that, if the alleged promises were sufficient to make the father responsible for the visits after such promises, still, it did not appear what services were rendered.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, December 14.

1.— Experiments on Disinfection of Rooms with Formaldehyde Gas in the City Hospital at Charlottesburg, Berlin. A. W. Fairbanks.
2.— Medical Testimony on Insanity as an Excuse for Crime; Report of Case. Jay Perkins.
3.—*Food Poisoning and Metallic Irritants, Charles Harrington.
4.— Simulated Appendicitis. J. G. Mumford.

Medical Record (N. Y.), December 16.

5.—*Diabète Bronzé and Pathogenesis of Diabetes Mellitus; Illustrated by a Case of Bronze Diabetes Preceded by Basedow's Disease. Henry W. Berg.
6.— Early Diagnosis of Tuberculous Joint Disease. Leonard W. Ely.
7.—*Effect of Certain Occupations on the Pharynx. Seymour Oppenheimer.
8.— Total Aniridia: Two Cases, One Traumatic, One (with Ectopia Lentis) Congenital. Geo. H. Cox.

Philadelphia Medical Journal, December 16.

9.—*Simplest and Most Useful Anastomosis Forceps. A Practical Test. Andrew J. Downes.
10.— Law of the Action of Medicines. (*Concluded.*) Elmer F. Gould.
11.—*Case of Postapoplectic Hemihypertonia. William G. Spiller.
12.—*Report of Case of Typhoid Fever Complicated by Suppurating Thyroid Gland and Orchitis. F. Alan G. Murray.
13.—*Report of Case in which Defective Speech Results in Some Interesting Derangements of Cerebral Functions. G. Hudson Makuen.
14.—*Rectal Adenomas. William M. Beach.
15.— Case of Appendicitis (?). H. B. Besemer.

Medical Review of Reviews, November 25.

16.—*Influence of Morbid Dreaming on the Development of Insanity. J. Leonard Corning.
17.—*Treatment of Cancer by Its Own Toxins. P. J. McCourt.

American Gynecological and Obstetrical Journal, December.

18.—*New Method of Diagnosis of Tuberculosis of the Kidney. Charles N. Noble and W. W. Babcock.
19.— Anatomy and Physiology of Visceral Sympathetic and its Bearings on Pelvic. Abdominal and Mental Troubles. E. K. Bacon.
20.—*Eclampsia. F. L. Brigham.
21.—*Operative Treatment of Uterine Fibroids. F. A. Lockhart.

Medical Mirror (St. Louis, Mo.), December.

22.— Therapeutics of Infectious Conjunctivitis. Dudley S. Reynolds.
23.—*Pathologic Common Sense and Drinking of Alcohol. C. H. Hughes.
24.—*Value of Prostatic Examination. J. Leland Bougher.
25.— Address. Wm. F. Waugh.
26.— Beta-Eucain as an Anesthetic in Eye, Nose and Throat Work. Wm. H. Poole.
27.— Treatment of Acute Lobar Pneumonia. Ramon D. Garcin.

Kansas City Medical Index-Lancet, December.

28.—*Have We a Medical Treatment for Typhoid Fever? B. H. Zwart.
29.— Case of Porro Operation with Rare Complications, and a Case of Tubal Pregnancy Operated on Before Rupture. Milo B. Ward.
30.—*Destruction of Cancer by Electric Currents. H. E. Pearse.
31.— Endocarditis. C. F. Wainwright.
32.— Diseases of Rectum and Anus. S. G. Gant.

Medical Review (St. Louis, Mo.), December 16.

33.—*Toxic Human Milk. E. W. Saunders and C. Fisch.
34.— Paralysis Agitans without Tremor. Charles Gilbert Craddock.

Journal of Boston Society of Medical Sciences, November.

35.—*Comparative Study of So-Called Polychromatophilous Degeneration of Red Blood-Corpuscles. Ernest L. Walker.
36.— A Modified Perimeter. Charles H. Williams.
37.— Temperature and Rhythm. Robert T. Edes.

Memphis Lancet, December.

38.—*Value of Treatment in Pneumonia. S. W. Purifoy.
39.— Abscess of Uterine Wall. W. W. Taylor.
40.— Law and Medicine—Similarities and Contrasts. John H. Cantrell.
41.— Plea for More Thorough Study of Materia Medica. E. A. Neely.

Medical Council (Philadelphia), December.

42.— The Eye: How It Sees, Its Defects and Their Cure with Glasses. A. H. P. Leuf.
43.—*Suggestions in Dysmenorrhea. J. F. Ritter.
44.—*Vaginal Hysterectomy. Wm. H. Wathen.
45.— Proper Nursing Absolutely Necessary for Successful Treatment of Typhoid Fever. J. E. Coleman.
46.— Compound Dislocation of Finger. H. N. Rafferty.
47.— Earache. E. B. Gleason.

Medical Age (Detroit, Mich.), December 10.

48.— Morphinism. Walter F. Boggess.
49.—*Leprosy is Surely Contagious. Albert S. Ashmead.

Columbus Medical Journal, November 20.

50.—*Obstipation. Sterling Barner Taylor.
51.— Railroad as a Benefactor to Civilization. G. W. H. Kemper.
52.—*Coughing. Daniel A. Berndt.

American Practitioner and News (Louisville, Ky.), November 15.

53.—*Some Phases of Puerperal Infection. A. Morgan Cartledge.
54.— Diphtheria: Its Identity and Transmissibility from Lower Animals to Human Subjects. William B. Meany.
55.— Report of Two Hundred and Seventy-Six Intubations. W. B. Pusey.

AMERICAN.

3. **Food Poisoning and Metallic Irritants.**—The diagnosis of ptomain poisoning from that of arsenic is the subject of Harrington's communication, and he points out their common symptoms. There are three notable differences, however. In arsenic poisoning we have heat and constriction of the throat, while in food poisoning swallowing and speaking may be impossible, from paralysis, which does not occur with any metal irritants. The second point is the condition of the pupil. In ptomain poisoning a marked dilatation has been generally observed, and in many cases great impairment of vision and even total blindness. Rarely contraction is noticed, and sometimes one condition succeeds the other. The third point of difference is in the muscular system. In arsenic poisoning there is great prostration, but the patient can stand or walk about. In food poisoning, on the other hand, there is most commonly an inability of the legs to support the body, even when the patient is assisted. Fortunately, as regards treatment, the diagnosis is not of great importance. In either case removal of the poison is the first indication, and supportive treatment requisite. In doubtful cases the antidote for arsenic can do no harm, even if that poison is not present.

5. **Bronzed Diabetes.**—After reporting a case of this affection, preceded by Graves' disease, Berg discusses the condition and what is known of it and its probable pathology. He thinks that diabetes may be of several kinds, those due to liver and pancreas disease, that from irritative lesions of the sympathetic and that due to destructive lesions of the vagus or to disorders of the lower portion of the vagal center of the medulla, which may be a reflex manifestation of the lesions of the sensory sympathetic. In his case he thinks it likely that the cervical sympathetic was first involved.

7. **Effect of Certain Occupations on the Pharynx.**—The following are Oppenheimer's conclusions: 1. The pharyngeal mucosa of the mill hand under 20 years of age is more susceptible to unfavorable influences than is that of the individual over that age. 2. The inhalation of dust, fibers, and chemical agents are the factors of most importance. 3. The majority of industrial workers are affected with pharyngeal disorders, dependent to a certain extent upon their occupation. 4. In those already affected with pharyngitis before assuming these occupations, the morbid changes are augmented by the work. 5. The primary pharyngeal changes are those of acute congestion and inflammation. Chronic changes are the ultimate result. 6. The pharyngitis produced in part or whole by the occupation does not differ in any respect from the ordinary forms. 7. Provided the nasal chambers be in approximately normal condition, pharyngeal affections are much less liable to occur than otherwise. 8. Hygienic measures applied to the environment of the worker are of vast benefit as regards the improvement of his general condition, and therefore of the upper respiratory tract. 9. Local care, as has been outlined, will be productive of much good.

9. **Anastomosis Forceps.**—Downes here describes a form of forceps for intestinal anastomosis, arranged with an interrupted ring so that blades can be unlocked and withdrawn separately. As he describes it, it is a simple forceps containing perfectly circular fenestrated rings with a small segment left open for introduction and removal as a whole.

11. **Postapoplectic Hemihypertonia.**—In this article Spiller reports a case of a peculiar form of muscular tonicity described by v. Bechterew, which he thinks should be clearly separated from other forms of posthemiplegic movement. It is a tonic spasm on one side of the body, associated with a little weakness, without contracture, coming on after an apoplectic insult and probably due to irritation of the motor fibers at some point below the motor cortex. This condition has been named by Bechterew, hemitonia apoplectica, for which Spiller suggests as a better designation, hemihypertonia postapoplectica.

12. **Typhoid Fever.** Murray here reports a case of typhoid fever accompanied by suppurating thyroid gland and orchitis, two rather rare conditions which are not before reported combined, in Keen's recent work on the sequels of this disease.

13. **Congenital Word Blindness.**—Makuen briefly reports a case of a boy who had difficulty of speech and inability to

recognize letters and words to a certain extent. He was quick at arithmetic, but very much behind in other studies, and it was difficult for him to talk with his companions. The trouble seemed to arise from an attack of meningitis at the age of 14 months, and he thinks that probably there may have been damage to the visual word center of the brain at that time. Two somewhat similar cases have been reported, all in boys. Under special training improvement was rapid.

14. **Rectal Adenomas.**—The conclusions of Beach's paper are as follows: 1. Rectal adenomas may be hard or soft; they contain the constituent elements of the mucosa and submucosa. 2. They may be malignant or benign. 3. Benign in their origin, they may become malignant. 4. Early recognition, made possible by the newer methods of inspection, is of the first importance.

16. **Dreams and Insanity.**—The influence of dreams in the production of insanity is here discussed by Corning, who refers to DeSanctis and others who have written on the subject of the hypnogogic origin of insanity, and adopts their views in substance. He thinks that the images of ideas aroused in the uncritical mental state of sleep may gradually pass into the waking state and become fixed, rendering the subject insane. It is not neurotic persons, however, who are specially liable to this cause. It is more the ignorant and superstitious.

17.—See abstract in the Journal of December 9, p. 1502.

18. **Tuberculosis of Kidneys.**—Noble and Babcock report a case of tuberculosis of the kidney, diagnosed by the sterile catheterization of the ureters and inoculation tests on guinea-pigs. They think that this is an important and exceedingly valuable method of diagnosis in most cases.

20. **Eclampsia.**—Brigham, after noticing the symptoms and what is presumed in regard to the pathology of eclampsia, reports cases in which veratrum viride was employed in doses of from 20 drops to ½ dram with success. He believes it is the remedy *par excellence.* In most of these cases he used morphin hypodermically with it, but he does not consider this as a special part of the treatment. The theory of the action of veratrum in such cases is, according to him, that it reduces arterial tension and softens the rigid os, thereby removing the cause producing the malady.

21. **Uterine Fibroids.**—Lockhart sums up as to the treatment of uterine fibroids, in the following conclusions: 1. A uterine fibroid should not be interfered with unless it is giving rise to serious symptoms, be they mental or physical, notwithstanding the statement of one gynecologist that he removes all fibroids that he meets with in practice, whether they are causing trouble or not. 2. Curetting is merely a palliative measure, as is, also in many cases, ligature of the uterine arteries. 3. Removal of the appendages ought to be merely a *dernier ressort,* as it practically never cures and does not always even relieve. 4. The operation of selection should be either total hysterectomy or else a myomectomy. 5. Myomectomy is to be chosen where the tumor is submucous and pedunculated; where it is subserous and either has a pedicle or a well-defined border; where several small nodules lie immediately beneath the peritoneum. 6. Total hysterectomy is indicated where the tumor is submucous and non-pedunculated, and the cervix can not be dilated sufficiently to allow of *morcellement;* where the tumor is either interstitial, large and subserous without a pedicle, soft, fibrocystic, or undergoing degeneration; where the tumor is complicated by diseased adnexa.

23. **Alcohol.**—In this paper, contributed to the recent temperance congress at Paris, Hughes notes the evils of alcohol and suggests as a remedy the substitution of other beverages, requiring all places where alcoholic liquors are sold by the drink to have the harmless beverages on sale. License no drinking shops apart from restaurants and thus practically abolish the bar as such, he says. He thinks this would be properly in the line of inebriate legislation, and maintains that strong coffee drinkers are less liable than water drinkers to become inebriates. Another suggestive treatment is by medication. The man who craves alcohol needs a physician and his system needs strychnin and bromids with gastric palliatives. The nerve centers are unstable when they crave alcoholic stimulation.

24.—See abstract in the Journal, October 14, p. 978.

28. **Typhoid Fever.**—Zwart maintains that the autointoxication is to be combatted in typhoid fever; that it is especially favored by a necrosis of the lymphoid tissues of the bowels, and that while we can not attack the specific infecting agent, we can control autointoxication by the early use of antiseptics, which is the only rational medical treatment. It materially modifies the disease and shortens it if taken early, while the use of antipyretics adds to the danger.

30. **Electricity for Cancer.**—Pearse advocates the use of electricity in the way of electric cataphoresis, carrying mercury into the tissues through hollow needles. The elements of chlorin and oxygen gather at the positive poles, and the oxychlorid of mercury is produced. He claims that this has been applied in thirty-eight cases, with such success as to lead him to believe that it is a cure for all forms of cancerous disease that are accessible to the treatment and not too far advanced, and that hopeless cases are much relieved.

33. **Toxic Human Milk.**—Saunders and Fisch report several cases as proving the position held by them in a previous paper, that there is another cause than the disproportion of nutritive elements in breast milk to account for the ill effects on the nursling sometimes observed. In the cases here reported, analyses were made and microscopic examinations and culture investigations, which did not demonstrate anomalies. Inoculation experiments on guinea-pigs and rats showed, however, marked toxic qualities fully accounting for the bad effects observed in the nursling. The poison appeared to be in some cases an alkaloid, and in another a toxalbumose, and these were not exactly typical in their action. For instance, the toxalbumose produced in animals experimented on, a subnormal temperature, an effect usually ascribed to alkaloids, and in another case an alkaloid poison produced elevation of temperature. In one, absence of toxicity of milk was demonstrated, yet there was a mild derangement of digestion in the nursling, which was ascribed to the excess of proteids and small percentage of mineral matters. They conclude that the poison in the milk is absorbed from the gastrointestinal or the genital tract of the mother, in menstruation, etc., and that it is elaborated by the cells under the influence of disturbed innervation.

35. **Degeneration of Red Blood-Corpuscles.**—Walker takes up the opinion that the occurrence of basophilous corpuscles in the blood is a pathologic occurrence. Following the suggestions of Smith, Gabritschewsky and Askanazy, he investigated the blood of the lower animals, of the fetus, and of the marrow of the bone, and found that the universal presence of basophilous corpuscles as elements of the embryonic red corpuscle tissue in the healthy vertebrate marrow furnishes unqualified disproof that they are corpuscles showing changes due to the pathologic conditions. He notes the condition of their appearance in the blood of animals, and concludes that they are elements taking the place of those that have been lost through disease. The practical value of these investigations is in showing that we have a quick, accurate method of microscopically diagnosing anemia, the presence of these embryonic bodies being quickly determined by a simple staining method which he describes as follows: Dried blood films are to be fixed, fifteen to twenty minutes, in a mixture of equal parts of absolute alcohol and ether, stained five to ten minutes with Löffler's alkaline methylene blue solution, and examined in water. The nuclei of the white and the red and the basophilous corpuscles, and the malaria parasites, if present, are stained blue. The normal red corpuscles are unstained.

38. **Treatment of Pneumonia.**—The death-rate in pneumonia was formerly considered to be between 5 and 90 per cent., according to the circumstances under which the disease existed and the environments of the patient. Purifoy, having stated the above, remarks on his experience with the disease. A large proportion of deaths probably more than 30 to 100, occurred in hospital practice during his early professional life, and he had the opportunity to observe the effect of different styles of treatment. He criticises the notion that the heart requires stimulation by strychnin, etc., holding that it simply increases the exertion of the organ under a load that is already as much as it can endure. Assuming that pneumonia is a special infectious fever, its duration limited to the life of the germ, the destruction of which is affected by its own toxin, he

began to give morphin in doses of ¼ gr., according to the nature of the case, and had only a percentage of 15, of deaths. The rational treatment, he holds, looking forward, will be in the line of serum therapy, which is being experimented on by Pane and DeRenzi. He believes it the only treatment presented so far with a rational basis.

43. **Suggestion in Dysmenorrhea.**—Ritter argues that many cases of dysmenorrhea are amenable to suggestive therapeutics, and reports an illustrative case in which, by a sort of hypnotism combined with massage, he completely relieved an obstinate case. He says that whenever he has failed in material measures, he has never been disappointed in obtaining very marked relief from suggestion, and generally cure of his patient.

44. **Vaginal Hysterectomy.**—Wathen reports a case in which extreme nervousness, almost bordering on insanity, was entirely relieved by complete removal of the uterus and its appendages. There was no apparent abnormality, except a very great enlargement of the organ, and its substance a little softer than normally. He mentions other cases where ovariotomy gave no relief, but removal of the uterus did, and suggests that there is here probably some unknown nervous disorder that can not be cured until the uterus is removed.

49. **Leprosy.**—Ashmead maintains that leprosy is surely contagious, and quotes Dr. Aguaro, a Columbian physician, that it is most liable to be contracted through sexual intercourse. He also quotes another who holds that it requires only an initial local lesion for its inoculation.

50. **Obstipation.**—After noticing the various symptoms of obstinate constipation, Taylor enumerates the causes as follows: 1. Compression, the canal being obliterated from without. 2. Obstruction. 3. Constriction, obstruction by causes starting from or involving the intestinal wall, and narrowing the canal. 4. Hypertrophy of normal rectal valves. This last he considers the most prominent factor, and maintains that the existence of these valves has been sufficiently demonstrated. He reports five cases of this character, relieved by the operation of valvotomy, according to the method of Dr. Martin of Cleveland.

53. **Puerperal Infection.**—Cartledge advocates, in extreme cases, hysterectomy for puerperal infection, and reports, at some length, a case in which it was performed. He thinks that curetting, except for the removal of adherent membranes or placenta, is likely to be useless and may do harm. Thorough irrigation in most of such cases is better than making fresh raw surfaces.

FOREIGN.

British Medical Journal, December 9.

Clinical Remarks on Hypertrophic Cirrhosis of Liver with Bronzing of Skin: Hemochromatosis. William Osler.—The author reports a case of progressive bronzing of the skin and no diabetes, occurring in a pilot aged 48, whose general health had been good except for attacks of purpura and urticaria, and who was a moderate user of alcoholics. He reports another, also of progressive pigmentation without diabetes, and with enlargement of the liver and spleen in a patient who had been subject to attacks of continued tropical fever. He considers the pathology of the process as obscure, and quotes, as possibly the best expression of our knowledge at present, the following conclusions from a paper by Opie, to be published in the *Journal of Experimental Medicine*: 1 There exists a distinct morbid entity, hemochromatosis, characterized by the wide-spread disposition of an iron-containing pigment in certain cells, and an associated formation of iron-free pigments in a variety of localities in which pigment is found in moderate amount under physiologic conditions. 2. With the pigment accumulated there is degeneration and death of the containing cells, and consequent interstitial inflammation, notably of the liver and pancreas, which become the seat of inflammatory changes accompanied by hypertrophy of the organ. 3. When chronic interstitial pancreatitis has received a certain grade of intensity, diabetes ensues and is the terminal extent of the disease.

Remarks on Pathology of Tabes in Relation to General Paralysis of Insane. William Gowers.—The author's remarks here are in relation to the causation and pathology of tabes and the relation of the two to each other. He thinks the question as to the syphilitic origin of tabes, in certainly the great majority of cases, has passed into the region of admitted fact. He is not an advocate of the identity of the two diseases. He believes that the toxic agents acting in these cases lower the durability of the nerve elements so that some other factor induces a premature decay.

Albuminuria in the Apparently Healthy. Herbert P. Hawkins.—The subject of albuminuria as it occurs after exertion, mental strain or anxiety, dietetic conditions and from posture, is here taken up. The latter form, which is generally observed in the morning is, he thinks, the most common. As regards the prognosis in these cases, he is not decided. He considers that it must be due to a temporary impairment or excitability of the epithelium of the glomeruli, and that this impairment is itself the result of temporary alteration of blood-pressure in the capillaries. It is a vasomotor disturbance primarily, and the question as to whether it leads to an organic change of the kidneys is not yet clear, though he evidently has doubts as to its harmlessness.

Lancet, December 16.

Influence on Health of Chemical Preservatives in Food. Alexander G. R. Foulerton.—Foulerton's article, which was begun in the previous number of the *Lancet*, is here concluded. He thinks that boric acid and formic aldehyde, if used in the small proportions found, would hardly cause any injurious effects to the average adult, but for invalids and young children they might be injurious. It is not likely that the boric acid would affect the digestive process, but it might have toxic effects in a general way. Formic aldehyde, on the other hand, might, to some extent, impair the digestibility of the milk. In no other article of food is the presence of these substances so important, and the need of legislation is greater because their presence can not be detected except by analysis. He thinks that no preservative should be used which is not sanctioned by the government, and the proportion of preservatives should not exceed a certain maximum; their presence should be declared by the vendor, and the article sold as being thus prepared.

Bulletin de l'Academie de Medicine (Paris), November 28.

Exclusive Alimentation with Meat in Treatment of Experimental Tuberculosis in Dogs. C. Richet.—In a large number of dogs inoculated with human tuberculosis, under the same conditions, all died except those which had been fed exclusively on meat; 50 per cent. of these survived. Richet is inclined to explain this salutary action of meat diet on the same principles as the metaphoric method of therapeutics which he has recently announced in the enhanced effect of sodium bromid, etc., when salt is almost entirely omitted from food. (See Journal, p. 1633.) The impregnation of living cells by this or that alimentary substance renders them less apt to feel the influence of this or that medicinal or toxic substance. By changing the nourishment of the cells, they can be rendered more or less liable to the action of other substances. In feeding dogs with meat exclusively, the cells possibly become impregnated with the extractives of the meat and do not take up the toxin or tuberculosis. Whether this hypothesis is correct or not, the experimental facts observed sustain clinical experience in respect to the benefit of a meat diet in anemia and phthisis. Gautier not long ago announced that subcutaneous injections of sodium cacodylate would restore the appetite in the second stage of tuberculosis when anorexia is apt to prevail, as noted in the Journal, enabling a meat diet to be resumed. Laborde has been successful with an excess of fat in the diet of tuberculous subjects, having them ingest five or six pounds of butter a day. Richet is now testing the exclusive meat diet on dogs in different stages of tuberculous infection.

Presse Medicale (Paris), November 11, 15 and December 2.

Pneumococcus Gastritis, with Hematemesis. G. Dieulafoy.—A manifestation of pneumococcus infection is described by the writer, with two observations in detail, in which the mucous membrane of the stomach is the seat of a multitude of small hemorrhagic erosions swarming with pneumococci, in the course of pneumonia or generalized pneumococcus infection. The lesion in the stomach is best described as a pneumococcus, hemorrhagic, ulcerous gastritis. The clinical manifestations are pains in the stomach, nausea, vomiting and hematemesis. The latter may be considerable and recur. He believes that these pneumococcic erosions are easily repaired, but there may be circumstances in which the ulcerous process is not arrested and continues its course to terminate in the classic form of *ulcus simplex*.

Presence of Microbes in Intestinal Mucosa of Nurslings Affected with Gastroenteritis. A. B. Marfan.—In the ordinary gastroenteritis of nurslings, due to saprophytes facultatively pathogenic, Marfan ascribes to them only a secondary rôle. The primary lesions are caused by the action of irritating or toxic chemical substances in the alimentary canal, either introduced with the milk or other food, or generated elsewhere, brought by the circulation or bile, or possibly derived from fermentations or putrefactions in the canal itself. These substances alter the wall of the intestine and open a portal for invasion by the microbes. This view explains the inconstancy of the bacterial invasions, the absence of relations between the intramucous microbian colonies and the lesions, also the frequent disproportion between the lesions found and the severity of the symptoms, etc.

Surgical Analgesia from Injection of Cocain Under the Lumbar Arachnoid. T. Tuffier.—The Journal has reported the success of Bier and others in obtaining analgesia by injections of cocain directly into the spinal canal (page 1271), and Tuffier announces equally favorable results in five tests. He found that the injection of 1 cg. of cocain in a 1 per cent. solution, into the sacro-lumbar space, produced complete analgesia in the inferior members, long enough for all surgical operations on these members. The injections seem perfectly harmless, and are apparently indicated in cases in which general anesthesia can not be resorted to. The analgesia is complete for vaginal hysterectomy, but is negative for abdominal operations. He observes that much more research is required on the subject, however, before the procedure can be currently recommended.

Chronic Primary Aspergillus Membranous Bronchitis. L. Devillers and L. Renon.—There is only one observation of primary aspergillosis on record, and this was not accompanied by membrane formation as in the case described in this communication. The patient assisted her husband in his business, the scientific selection of more resistant grains for sowing in poor soil and lived in a damp house. Since 1894, she has complained of a musty taste in her mouth, occasionally, followed by a sense of suffocation at the entrance to the throat, dispelled by expectoration of a few sputa. Since 1898, about once a month, respiration has become difficult and whistling, and in twelve hours violent spasmodic coughing ensues until relieved and arrested by the expulsion of a greenish membrane, from 3 to 6 cm. long and 1 or 2 cm. wide, which consists exclusively of the mycelium and virulent spores of the aspergillus fumigatus. Aside from these monthly attacks the subject is in good health. Vigorous treatment with inhalations of iodin, and general arsenical treatment has not materially ameliorated the conditions. Colla has recently reported a case of aspergillus pseudo-tuberculosis in a traumatic diabetic; at the autopsy the mycelium was found even in the fibrinous exudate of the pulmonary alveoli. In the above case the invasion seems to be limited to one large bronchus.

Centralblatt f. Chirurgie (Leipsic), December 2.

Alcohol Narcosis. Matthaei.—This method of narcosis is based on the similarity of the effects of alcohol, chloroform and ether and the assumption that alcohol is less dangerous than the others, especially for persons accustomed to its use. Matthaei announces that rabbits can be rendered insensible in two or three minutes, to needles inserted in the ears, paws or skin, by having them inhale the fumes of alcohol heated to 50 or 60 C., supplemented by a mechanically retained rectal injection of two to five grams of spiritus in ten to fifteen of water. He used Kappeler's metal chloroform mask and apparatus, which sends compressed air into the alcohol. The fumes alone do not produce deep enough narcosis, and it persists too long. The supplementary alcohol is far more prompt and energetic in its action, administered *per rectum* than *per os*, which also avoids danger of the subject's acquiring a taste for liquor. The room must be quite warm to prevent condensation of the alcohol on the mask. In all previous attempts at alcohol narcosis, unnecessarily enormous doses have been administered. The proportion for the rectal injection is 1.2 to 2 grams of alcohol per kilogram of weight, that is, for an adult weighing 60 kilograms, 72 to 120 grams of alcohol, equal to from 144 to 240 grams 50 per cent. cognac or a bottle of wine, but the effective minimum must be sought for individual cases. He begs others to test this method on man, for which he has no opportunity, suggesting that it might first be tried on intoxicated persons requiring an urgent operation.

Deutsche Medicinische Wochenschrift (Leipsic), December 7.

Radical Operation of Volvulus and Invagination by Resection. v. Eiselberg.—An experience of six cases of volvulus of the sigmoid flexure and nine of invagination has convinced Eiselberg that simple untwisting of the volvulus and disinvagination of the invagination are simple and effective processes, but have no influence on the prevention of recurrence of the volvulus or invagination. In fact, recurrence seems to be the rule. Colopexy has not yet been sufficiently tested. Consequently Eiselberg recommends total resection of the volvulus or invaginated portion as the safest radical operation. Whether it is carried out at once or in a second intervention is decided by the individual circumstances in each case. Excluding cases hopeless from the start, he has had 7 recoveries in 7 operated on for invagination. Of the 4 of volvulus cured by simple untwisting of the loop, 2 returned later with recurrence; 1 was lost sight of, 1 died of ileus, unoperated.

Treatment of Fresh Injuries of Extensor Apparatus of Knee. Doebbelin.—The results attained in eleven cases of fresh fracture of the patella inspire Doebbelin to recommend his method, which consists of an arc incision from one epicondylus femoris to the other, over the lower end of the ligamentum patellæ proprium. The skin flap thus made is turned back, the fracture exposed, and the fragments united with two strong catgut threads, or one silk and one catgut. The periosteum and the fascia on the surface of the patella are pulled out of the crack and sutured exactly in front of it. A portion of the skin wound is left open, with no drainage. The leg is put up in splints in extension, and elevated. The first dressing is not changed for ten to fourteen days. The hands are never allowed to touch the tissues at any time; all the work is done by means of instruments or compresses. No serious complications were observed in any case.

Present Status of Disinfection of Hands. P. Furbringer.—The writer is a warm advocate of alcohol as the most efficient disinfectant we possess for the hands, and suggests that the varying results obtained by different investigators are due to the varying conditions of the tests. The clinical saprophytes encountered in daily practice should not be compared with the virulent germs used in some of the tests.

Muenchener Medicinische Wochenschrift, November 28.

Typhus Bacilli in Roseola of Typhoid Fever. H. Curschmann.—Neufeld considers the rose-colored eruptions in typhoid fever metastases of the typhoid lesions in the intestines, and by cutting out a scrap of the tissues and transferring it immediately to bouillon, with a little of the ensuing blood, he has succeeded in all but one of fourteen cases in obtaining a positive bacteriologic result. Curschmann confirms all his statements, and announces that in the bacteriologic examination of these eruptions we have a simple, easy and positive means of differentiating typhoid in dubious cases at an earlier stage than is possible with the seroreaction. He obtained cultures in fourteen out of twenty cases in various stages, and thinks that they would always develop at a given stage of the lesion. He found these cultures from roseola eruptions useful in the serodiagnosis of other cases.

Artificial Therapeutic Hyperemia. A. Bier.—"It seems to be established that the beneficial results attained by attracting the blood to the region in chronic rheumatism can be secured fully as well by stagnation of the blood, which suggests that the improvement is due to an identical process in each, equally prominent whether the blood flow is accelerated or retarded, possibly due to the resolving properties of the blood." Bier describes and illustrates the simple box contrivance by which he applies hot air directly to the joint in chronic rheumatism, at a trifling expense. The box is made of wood, covered with duck, painted, with soluble glass, inside and out, which renders it fire-proof and durable. The heat is derived from a large alcohol lamp, adjustable, at the desired height, in a stand terminating above in a funnel-shaped chimney which turns at a right angle into the box. It is usually applied an hour a day. He is inclined to hope much from improved cupping appliances like Junod's boot, by which the blood can be sucked into the part, and then by admitting air, allow it to flow on, repeating this process indefinitely. "There is a field for mechanical achievements in this line."

Treatment of Afterbirth Period. M. Hofmeier.—A fatal case of puerperal infection brought before the courts leads Hofmeier to suggest the following rules to guide the practitioner in his postpartum treatment. In his and Zweifel's experience, if the placenta is not delivered in three to four hours, it never is spontaneously delivered later. In regard to hemorrhage he always has a clean pan slipped under the woman after delivery, to collect the blood so as to be able to estimate the amount of hemorrhage, if any occurs, and prompt intervention is indicated when 1 or 1½ liters of blood have been lost. He also advocates a thorough objective disinfection of the patient before undertaking any obstetric operation, observing that any practitioner is culpable who omits thorough disinfection of the external genitals and the vagina before any postpartum manual operation.

Venous Thrombosis in Chlorosis. O. Leichtenstern.—Venous thrombosis was noted by Eichhorst four times in 243 cases, or 1.6 per cent.; by v. Noorden five times in 230 cases, or 2 per cent. and by Leichtenstern eleven times in 1653 cases, or .66 per cent. He calls attention to the facts that edema may be entirely absent, even with pronounced thrombosis, and that chlorotic thrombosis of the veins and sinuses is favored by pregnancy. Several of the cases recorded were in the early months of pregnancy. Hemorrhage also favors chlorotic thrombosis. The thrombosis occurred in the veins of the leg in forty-eight cases on record, and in the cerebral sinuses in twenty-nine and only once each in the other localities in the eighty-six cases analyzed. He notes the remarkable frequency of thrombosis of the sinuses in young chlorotic subjects, otherwise healthy, and places chlorosis in the front rank of all the morbid conditions which induce spontaneous sinus thrombosis. Involvement of the sinus rectus is much more dangerous than of the sinus cavernosus. The veins of the leg are affected as often as the femoralis, which distinguishes chlorotic thrombosis from the thrombosis following acute infectious diseases in which the femoralis is almost exclusively affected. The smaller the obstructed veins the less edema and the greater the difficulty of the diagnosis, especially when located in the deeplying veins of the calf. Even pain may be absent. But if mistaken for neuralgia, myalgia, etc., and massage and exercise are ordered, fatal pulmonary embolism may result. Patients with chlorotic venous thrombosis must be carefully supervised even after clinical recovery, as is demonstrated by some fatal cases described. Pulmonary embolism occurred in a fifth of the fifty-two cases of thrombosis of the lower extremities, all but one fatal. The clot in chlorotic thrombosis seems to have more of a tendency to crumble than in any other affection, except perhaps the puerperal. Each thrombus formation is accompanied by a very slight increase of temperature for one to three days, intermittent, usually in the evening. High fever, chills, exclude the diagnosis of chlorosis. With sinus thrombosis the fever is also slight, but more continuous, and rises as the fatal termination approaches. He attributes the etiology to several factors: an alteration in the texture of the intima, the weakened heart action and the increased destruction of figured elements in the blood with the liberation of fibrin ferment, and adds that the infrequency of chlorotic thrombosis indicates that these conditions are seldom all combined, and that their combination may occur in cases not otherwise the most severe.

First Case of Successful Gastroenterostomy for Congenital Hypertrophy and Stenosis of the Pylorus in a Two Months' Nursling. W. Abel.—The operation lasted fourteen minutes; Woelfler's method was followed; ether. The infant showed no signs of collapse at any time; slight fever next day; uneventful recovery.

Prager Medicinische Wochenschrift, xlii and xlvi.

Vessel Sounds in Interstitial Hepatitis, v. Jaksch. In three out of sixty-four observations of chronic interstitial hepatitis, v. Jaksch noticed an intra-abdominal vessel sound in the corner between the liver and spleen, and the autopsy of one case showed that the vena lienalis was very much enlarged, probably the origin of the systolic sound.

Wiener Klinische Wochenschrift, November 30.

Phenomena Occurring on Electric Stimulation of Corpus Striatum and Thalamus Opticum. J. Prus.—Continuing his study of electric stimulation of portions of the brain (see Journal, p. 1418), Prus now announces that stimulation of the corpus striatum and thalamus opticum, after painting the cortex with 10 per cent. cocain, only produced tonic or clonic contractions and increased the blood-pressure in the former and decreased it in the latter case, with none of the epileptic symptoms, running movements, nor alterations in respiration and pulse, such as follow similar excitation without the cocain. This demonstrates that the latter symptoms are reflex phenomena induced by excitation of the superficial layers, while the contractions and influence on the blood-pressure are evidently due to the direct electric excitation of the motor cells and nerves which pass through these portions of the brain or in their immediate vicinity. Weak or moderate currents have no effect on the thalamus; a strong current is required to produce these phenomena. The same results followed in both cases after the pyramidal tracts had been severed. He concludes that the corpus striatum plays a certain part in the voluntary movements and also in the co-ordination of the more automatic movements of running, etc. Besides this, it exerts a certain influence on the blood-vessels by means of its vasomotor center for the vasoconstrictors. He consequently asserts that the clinical symptoms of rising temperature and redness of the skin on the paralyzed side in case of extensive lesion of the striatum are due to paralysis of this vasomotor center, and that the tremor and choreatic movements are also probably connected in some way with the function of this body. Stimulation of the rear outer portion of the optic thalamus induced an expression of violent anger, and of the rear median section, clonic contractions with much tremor. He also established the existence of a vasodilating center in the rear median section. The disturbances in facial expression, vasomotor disturbances and choreatic movements noted in disease of the thalamus, therefore, coincide with the results of his research. Even the atrophy of the muscles which frequently follows a lesion of the thalamus, is readily explained by assuming paralysis of this vasodilator center, which allows the constrictors to get the upper hand, with consequent lack of sufficient nourishment.

Bilateral Disease of Parietal Region. D. G. Anton.—From observation of a case with almost entire loss of automatic and histrionic movements, disturbances in vision and loss of sense of locality and distance, among other minor symptoms—due to a neuroglioma involving both parietal regions—Anton infers that the motor components of the act of seeing—visual perception—constitute a special function of the brain. Although it is closely and intimately connected with the optic-sensory center, the substratum is located in the parietal lobe.

Societies.

Chicago Ophthalmological and Otological Society.

Nov. 14, 1899.

METHYL ALCOHOL AMAUROSIS

Dr. Casey A. Wood presented, through the courtesy of Dr. Patillo, two cases of methyl alcohol amaurosis from inhalation of the poison, in which the fundus changes were well marked. In connection with these, he wished to point out a very curious circumstance: Until last year, cases of amblyopia or amaurosis from the use of methylated spirits were extremely rare, the first being described in 1877. He wrote a small monograph on "The Toxic Amblyopias" in 1892-94, and was unable to find reported more than this single case in all literature. The experience of de Schweinitz, who wrote a still larger work on the same subject in 1895, seems to have been the same. Since that time, a dozen or more cases have been described, but all of them within the past year or two.

In all the instances hitherto given, the amblyopia or amaurosis occurred from drinking the spirits, but in this case it occurred from absorption by the lungs, mucous membranes and skin. The patients had good vision and there is no history of syphilis nor of any condition likely to produce sudden blindness. They were employed to "shellac" the interior of beer-vats in a brewery. These vats were 20 feet wide by 10 feet deep, cylindric in shape and were almost entirely enclosed. There was indeed a vent of three or four inches in diameter at the top, and a sort of man-hole partially closed by a lantern, through which the painters crept. It was subsequently shown by analysis that the shellac was not properly prepared, as it was composed of a solution containing more than 50 per cent. of methyl alcohol. In addition to this the temperature in the vat was raised to about 70 degrees, in order to dry the interior. These men were consequently exposed to this concentrated and hot methyl alcohol vapor for hours at a time, and it is not surprising, knowing as we do the poisonous qualities of wood alcohol, that they were soon affected by vertigo, nausea and general malaise. They next found, on awakening one morning, that they were totally blind. Improvement in vision took place after a week or ten days, and one of them was able to get around pretty well. About two weeks after the beginning of the blindness, the visual acuity in both again sank and now amounts to very little. By one patient, hand movements in one eye and fingers at about two feet are visible; by the other, fingers are seen at three feet by one eye and at eight by the other.

In both cases the field of vision exhibited a very decided positive scotoma, with apparently, a very narrow rim of percipient retina. In one patient it was impossible to measure the field at all with the usual objects, on account of the very low vision, but by means of a faint light it was fairly well marked out. Vision is now worse than it was after the first improvement. The fundus changes in one seem to bear out the theories of Ward Holden, who has written on this subject and examined dogs to whom methyl alcohol was given *per orem* after anesthesia. He believes the alteration begins in the retina, from whence it ascends to the optic nerve and later proceeds to true atrophy. This condition of things can be plainly seen in these two fundi, he said. In one of the patients there are certainly indications of a periarteritis, with macular changes and dirty, woolly disks with the edges not plainly marked.

On the other hand, as Gifford has pointed out, the clinical history plainly indicates an early optic neuritis, while the subsequent story of temporary improvement in sight, late, well-marked atrophy of the post-neuritic type, makes it difficult to conclude otherwise than that the action of the poison is chiefly—probably in the first instance—on the axial fibers of the nerve itself.

He has never seen a case in his own practice, except a very doubtful one, in which the diagnosis lay between hemorrhage into the brain and possible methyl alcohol poisoning. Here the patient presented—after a spree—precisely the same general local symptoms—with similar fundus changes—just portrayed, but there was no convincing evidence of his having drunk liquor charged with methyl alcohol.

Dr. F. C. Hotz saw these cases in his clinic. They are especially interesting, because the methyl alcohol was introduced into the circulation through the lungs, not through the stomach. He believes they are the first observations of the kind brought to our notice. At least, among the small number on record of toxic amblyopias due to wood alcohol, there are none in which the intoxication was caused by inhaling the alcohol. A day or two after the occurrence of blindness, both patients had been put under the care of Dr. Welcker, who found marked optic neuritis in both cases; the blindness was complete when he first saw them, and then the sight returned to a certain degree, but gradually grew worse again. If Dr. Holden's views were correct, that wood alcohol primarily affects and directly destroys the retinal elements, it would be difficult to account for this temporary recovery of sight, for the perceptive elements once destroyed make the return of sight impossible. On the other hand, we can well understand that a violent inflammation of the connective tissue of the optic nerve may interrupt, by pressure, the conduction of visual perceptions, so completely as to cause total blindness during the heights of inflammation, and yet vision may return when the inflammation subsides and the nerve-fibers are released from the paralyzing pressure of the swollen connective tissue. But as the neuritis is always followed by more or less shrinkage of the tissues, causing atrophy of the nerve-fibers, the vision gained is gradually lost again. Clinical facts, therefore, do not sustain Dr. Holden's views, but rather prove that wood alcohol exerts its injurious effects primarily on the optic nerves.

Dr. J. Elliott Colburn saw a case in April. The man was cleaning some old furniture in an office building, where they were desirous of keeping the fumes from spreading over the building. He used the alcohol quite freely, and after five or six days he noticed that his vision was beginning to fail. A day or two afterward he called at the Doctor's office, had a very low vision and presented a picture of a very severe double neuritis, attended by considerable pain. He also complained of pain in the arm, while using the alcohol. The Doctor thought it might be due to a cold, but is since inclined to believe, from personal experience, that it was due to the absorption of the alcohol. The appearance was that of a typical neuritis. During May the Doctor had occasion to do some cleaning of furniture and used wood alcohol. He experienced the same pains in his hand and arm which the man had complained of. He thought it might be due to the unusual work, but after much more difficult labor, did not experience the pain; furthermore, on using the alcohol again, he experienced the same discomfort.

Dr. Henry Gradle thought these two cases of methyl alcohol poisoning plainly showed that the trouble is a post-neuritic atrophy. On rather cursory examination it seemed to him that the retina presented a lessened transparency in its central area.

OCULAR AND ORBITAL DISEASE AND NASAL AFFECTIONS.

Dr. H. Gradle presented the relationship of ocular and orbital diseases to affections of the nose and its sinuses. His experience led him to criticise some of the communications on this subject as too generalizing. He maintained, however, that although the nasal etiology is not as common as some maintain, there are certain definite instances in which various orbital and ocular troubles occur as complications or extensions of nasal diseases, which point was illustrated by a number of clinical records.

Dr. Thomas Faith has in a number of instances noticed the appearance of a temporary ciliary injection with considerable pain in the eye and tenderness in the ciliary region, occasionally accompanied by a hyperemia of the iris, and in one case amounting to mild iritis, following deep linear cauterization of the inferior turbinal body. The pain, as the patients expressed it, was like a severe toothache extending into the eye. The symptoms passed off in from twenty-four to forty-eight hours without necessitating any treatment except in the case of iritis, which subsided in about eight or ten days under the influence of atropin.

In another case which he chanced to see in the practice of a friend, a case of one-sided atrophic rhinitis following complete removal of the middle and inferior turbinal bodies, the cornea on the same side became opaque and degenerated in spite of anything that could be done. The absence of any other traceable cause, and the appearance of the eye symptoms at the same time as the beginning atrophy in the nose, seemed to point to the nasal trouble as the cause. He believes that in all probability the changes which take place are trophic in character. The mucous membrane of the nose is supplied by branches of the fifth pair of cranial nerves, as is the cornea and anterior part of the eye in general, and the changes which occur in the eye after division of the fifth are marked and characteristic of trophic changes, as well as loss of sensibility to cornea, iris and ciliary region.

In animals, where division of the fifth nerve has been made for physiologic experiment, changes occurred in the cornea even when it was protected by closing the eye, or oiled with an ointment. The cornea became completely opaque, followed by a gradual degeneration, which sometimes extended to the interior of the eye. The changes in these cases have reference to the nerve distribution; the changes in the nose affecting the nerves in that organ, from there extending to and affecting the branches which supply the eye, and particularly in the case last mentioned, amounting to a pure trophoneurosis.

Chicago Medical Society and Chicago Medical Examiners' Association.

Joint Meeting, Dec. 13, 1899.

RELATION OF MENTAL DISEASE AND RESIDENCE IN AN ASYLUM OR SANITARIUM TO LIFE EXPECTANCY.

DR. HAROLD N. MOYER read a paper with this title. Relative to life insurance examination, he thinks the blank forms might be improved by a form calling for family and personal history, to be filled out and filed by the applicant. This would give the examiner wider latitude in passing on the risk, and overcome the tendency of some to sink the spirit of the examination in the letter. The question found in many blanks, relating to residence in a sanitarium or asylum, is superficial; nearly all information regarding such residence is covered by other questions. The conditions leading to such residence are of importance. Insidious diseases of the nervous system not easily recognized in the early stages, are not the source of error that might be supposed, as these afflicted so frequently forfeit the policy by inability to pay premiums.

One class of sanitarium habitués, i. e., neuropaths, hysterics, neurasthenics, etc., do not have the risk increased by residence in such institutions, but rather diminished. Owing to the good care given themselves, the risk is not so great as that of vigorous middle-aged men who eat too much, drink a little, and work too hard. The prognosis of longevity in mild hysteria and acquired neurasthenia is favorable; in the graver forms they may accompany severe organic degenerations and in these the prognosis should be guarded.

A history of insanity rarely escapes notice. In all but a few forms, it materially tends to shorten life. A very small percentage of those afflicted with mania and melancholia die in the first attack, and prognosis to life and return of reason is usually good. A case need not be rejected because of a short residence in an asylum, but there must be careful study of all circumstances surrounding the attack, and consideration of a tendency to recurrence. These patients also, frequently lose ability to pay premiums long before the insurance accrues. The relation of mental diseases to certain organic lesions must not be overlooked.

The insurability of a confirmed epileptic is doubtful. A history of one or two convulsions in early life, or occasional attacks at long intervals, raises the doubt as to whether they were true epilepsy.

The most important nervous disease in relation to insurance is paretic dementia. The average duration of life after an attack is about three years. It is not the outcome of specific diseases, mental strain being the most frequent contributing factor; the slight importance attached to this by the applicant, however, causes it to pass without notice.

RELATION BETWEEN RECTAL DISEASES AND LIFE INSURANCE.

DR. WELLER VAN HOOK, on this topic, referred to the commoner diseases of the rectum—hemorrhoids, stricture, abscess, fistula, gonorrhea, ulceration, prolapse and carcinoma in their causal relation to one another and in relation to life expectancy.

EXAMINATION OF WOMEN FOR LIFE INSURANCE.

DR. DENSLOW LEWIS contributed a paper on the above subject, saying that life insurance is a business proposition. The basis of calculation is not perfection of health, but a standard. The average life probability of standard groups is the basis of insurance statistics. The perpetuity of life insurance and the reliability of actuarial computation depend on the determination of the standard. The prescribed examination of women fails to discover many important pathologic conditions which affect the risk and influence the standard. Dangers of child-bearing are now considered compensated by diminished exposure, more regular mode of life, etc. Increased moral risk is recognized in young divorced widows, and the influence of economic and sociologic relationship is appreciated. Gynecologic examinations should be made in every applicant to determine pathologic conditions not discovered by the usual form of examination, which was devised originally for the investigation of men. Hardening of the breast is a cause for rejection, unless the sequel of recent abscess. If the finger in the vagina can not touch the promontory of the sacrum, the conjugate diameter may be assumed to be sufficient for parturition. Lacerations of perineum and cervix are especially important when infected. Leucorrhea usually indicates infection which should be investigated. Infection is always a potential danger, for the limits of possible extension can not be determined. The differential diagnosis for insurance purposes is unnecessary. Tenderness in either fornix and any intrapelvic deviation from the normal condition, as determined by bimanual examination, is sufficient cause for postponement or rejection.

RELATION OF CHRONIC EAR DISEASES TO LIFE INSURANCE.

DR. J. HOMER COULTER restricted his remarks largely to chronic suppurative otitis media, saying that an acute suppuration of the ear will, if left alone, tend to become chronic, and many cases improperly treated will tend either to seriousness or chronicity; hence a complete and fully detailed report of the case is necessary in examining an individual for life insurance. Medical directors generally do not accept an applicant for insurance, at ordinary rates, who gives a history of chronic or repeated attacks of acute inflammatory affection of the ear. If applicants be entirely free from attacks of tinnitus, vertigo, headache, disturbance of vision, or itching in the ears, for a period of seven years, then they may be considered safely insurable so far as the ears are concerned.

Laryngological Society of Maryland.

This Society was organized on December 13, with the following officers: president, John N. Mackenzie; vice-president, Samuel K. Merrick; treasurer, John R. Winslow; secretary, Aughlett Hardcastle.

LAST ILLNESS OF WASHINGTON.

The opening was signalized by a discussion of the last illness of Washington, begun with a historic address based on two statements by the physicians, one a history of the case signed by Drs. Craik and Dick, and printed in the *Baltimore Federal Gazette* for Dec. 26, 1799; the other an article by Dr. Dick, written in 1808 for the *Philadelphia Medical and Physical Journal*. A private letter of one of these physicians was also quoted. The disease appears to have been an acute edematous laryngitis due to a cold caught while riding on his estate in bad weather, on Thursday, Dec. 12, 1799. On the following day Washington complained of hoarseness. Before dawn of Saturday he aroused Mrs. W., and said he was ill, but would not let her summon a doctor until daybreak. Then Dr. Craik, his intimate friend of fifty years, was sent for, who finding the patient in great pain had also Drs. Dick of Alexandria, Va., and Gustavus Richard Brown of Port Tobacco, Chader County, Md., summoned. In spite of their efforts he died that Saturday night, about 11 o'clock, twenty hours after he had told his wife he was ill. His death was due to strangulation. Of course it is easy to criticize the treatment, which no doubt contributed to the fatal result, by weakening the patient, for at least five pounds of blood was drawn in twelve hours, besides the calomel and antimony administered, the first bleeding being by the overseer before the doctor arrived. There was not perfect unanimity with regard to the treatment by the physicians, Dr. Dick soundly condemned the excessive blood-letting as terribly weakening, and advocated the operation of tracheotomy, a novelty which had been practiced a few times even then. The other two physicians, however, who were older men and naturally more conservative, voted the suggestion down, although one of them afterward acknowledged that this was a mistake.

DR. MACKENZIE closed the discussion by saying that it was hard to make a diagnosis after the lapse of 100 years, and unfair to criticize the attending physicians from the standpoint of present knowledge. If it was a simple acute laryngitis, tracheotomy would probably have saved the patient's life. Earlier attempts to show that the disease was diphtheria had been abandoned for want of evidence. Acute laryngitis was not definite a century ago nor a separate disease. He suggested that the death of Washington probably hastened the dissemination of this disease, as in 1808 it was first recognized as an independent affection. He gave to Dr. Dick the credit of first describing it, in an article on croup.

THE YELLOW fever hospital located on an island opposite Santiago de Cuba was burned December 20. Large quantities of hospital supplies were destroyed.

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All communications and manuscript of whatever character, intended for publication in the Journal, should be addressed to the *Editor*, and all communications relative to the business of the Journal, proof-sheets returned, or in regard to subscriptions, should be addressed to The Journal of the American Medical Association, 61 Market Street Chicago.

Original communications are accepted with the understanding tha they are exclusively contributed to this Journal.

SATURDAY, DECEMBER 30, 1899.

Owing to the large amount of extra space demanded by the index to the volume of the Journal which ends with this number, it has been found necessary to curtail all, and omit some, departments from this issue. This is necessary, yet, notwithstanding the fact, this number of the Journal contains one hundred and twenty pages.

THE INDEX.

The index accompanying this number of the Journal is an attempt to cover the medical literature of the United States and Canada for the past six months, as we have been able to follow it. Besides the "General Index," which embraces the titles of all articles, editorials, society reports and miscellaneous matter contained in the volume, we include: 1. An index of certain departments. 2. An "Index of Authors:" In this, following the author's name, is the number of the page on which may be found the title of the article and the name of the journal in which it is published. After the matter is set up in cold type we see where improvement can be made, and it is our intention in the future to further the value of the index by not only giving the page reference, but also the paragraph number given the article in our weekly list of titles (Current Medical Literature), thus facilitating the finding of an author's source of publication. 3. In the "Index of Titles of American Current Medical Literature," cross-indexing is limited, though used as freely as we thought necessary. While we realize that the index is far from perfect, we feel confident that it will be found to be a great help to those who desire to look up the recent literature on any subject. It is a nearly complete index medicus of American medical literature, for the period covered. The "General Index" follows a somewhat different plan from that in former volumes, in that it does not include "Book Notices," "Deaths and Obituaries," "Discussion," these departments being separately indexed, as heretofore, but placed by themselves rather than in the body of the "General Index." Attention is called to the suggestions relative to the use of the index, printed at the head of the "General Index."

ETIOLOGY OF CEREBRAL DIPLEGIA.

The amount of attention which infantile cerebral palsy is receiving at the present time is a fair index to the importance of the subject. As but little is to be obtained by treatment of the condition when once established, special interest rests on its possible etiology and pathology, thus enabling us to employ preventive measures. One variety of infantile cerebral palsy known as diplegia is now receiving considerable attention. Dr. James S. Collier[1] has presented an excellent article on the subject.

The current theories upon the etiology and pathology of cerebral diplegias are many; the reason for this rests in no small part on the fact that we do not see the initial lesion of the affections. Autopsies on long existing lesions show diffuse and lobular scleroses which are undoubtedly secondary. It is probably true that the congenital predisposition plays an important rôle in the etiology of the affection, and that many of the so-called causes are really excitants only. Of all the numerous causes alleged, morbid maternal states during pregnancy are held in first place by most clinicians, while hereditary factors, abnormalities of birth and postnatal conditions take second place in causation. Collier submits that MacNutt's demonstration of a meningeal hemorrhage in certain diplegic cases can not be urged to be the principal cause in all cases in the light of recent research on diplegias. As to the immediate etiology or the etiologic-pathology, much evidence is now shown that the lesion may be initial neuronic degeneration of the pyramidal cells of the cerebral cortex, while the lesions formerly found by older investigators are secondary to the primary lesion of a cellular degeneration. The citation of the findings of such lesions by some authors, and the early changes of the gray matter in cases reported by Collier, certainly prove much for the theory of primary pyramidal cell dissolution. Possibly the immediate excitant to this neurotic degeneration may lie in some toxic element. Further careful studies into the etiology and pathology of infantile cerebral palsies may soon be of some practical benefit in prophylaxis of this unfortunate affection of children.

FATAL DIABETES MELLITUS IN THE SEQUENCE OF DIABETES INSIPIDUS.

It may be considered an open question whether diabetes insipidus and diabetes mellitus represent different phases of the same disease, but their invariable consideration separately indicates that they are looked upon as independent affections. Nevertheless, it does not seem difficult to conceive that a lesion of certain extent or intensity might give rise to increased secretion of urine alone, and that the same lesion, though of greater extent or intensity, might give rise, additionally, to the presence of sugar in the urine, with the other attendant phenomena of saccharine diabetes. Instances of conversion of one form of diabetes into the other are rare, but a case has recently been placed on record by Blackett[1] in which diabetes mellitus developed in the sequence of diabetes insipidus. The patient was a man, 54 years old, who had had a severe attack of influenza, had been overworked, had suffered a profound shock from the sudden death of a friend in his presence, and had worked hard rescuing life and saving property from a fire. Soon after the last event, increased thirst, debility, and polyuria appeared. Frequent urinary examination failed to disclose at this time the presence of either albumin or sugar. The specific gravity of the urine varied between 1002 and 1006. Under careful treatment improvement took place, but after a temporary resumption of active work lassitude and debility reappeared. The patient now gradually grew worse, and finally coma developed. It was discovered that the urine had a specific gravity of 1026 and contained sugar in large amounts. Death occurred in the course of thirty-six hours.

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[1] Cerebral Diplegia, Brain, vol. xxii, part iii, p. 373, autumn number, 1899.

"CHRISTIAN SCIENCE" AND DEATH CERTIFICATES.

The status of a "Christian Scientist's" patient in relation to life insurance was taken up some time ago by a life insurance journal, and certain aspects of the case discussed. The general conclusion was that the decision rested with the company as to whether or not it would be satisfied that the deceased had not defrauded it by neglect, or whether the case could be considered one of suicide or homicide. It was assumed that the "Christian Scientist" could not legally give a certificate of death that would be accepted by the registrar of vital statistics, and that the company would have the finding of an inquest in such cases to guide its action. In certain states, however, "Christian Science" has been recognized as a mode of healing, if not directly, by implication, in excepting its practitioners from the penalties of the law for illegal practice of medicine. In such, what is the status? Usually we may admit that the Eddyite will withdraw from the case early enough to have a regular doctor called in, who, if too late to do good, may commit himself so far as to state the cause of death. Dowie's Zion is, we believe, equipped with an irregular but certificated doctor-adherent who has regularly stultified himself both professionally and as a "divine healer" in this way. What, however, can a pure C. S. D. do, believing, as he claims to, that there are no such things as disease and death, when he finds himself unable to evade the giving of a death certificate? Can he say, as the youthful relative of a victim once did, that the late departed believed herself dead so strongly that they had to bury her? We have no doubt their metaphysics would be sufficient for their own needs in the case, but whether they can, without collusion, satisfy the demands of the law is another story. The fact that the delusion is so wide-spread and includes among its dupes so many of influence in legal circles is probably the reason why we have not heard more from it in this particular connection.

"THE TREATMENT OF CANCER BY ITS OWN TOXINS."

Of the extremes to which even medical men may go, illustration is afforded in a communication presented before a recent meeting of the Section on Obstetrics and Gynecology of the N. Y. Academy of Medicine, and dealing with the treatment of cancer with its own toxins[1]. It is proposed to give by the mouth, twice or thrice daily, virus obtained by curettage from a carcinomatous new-growth and mixture with perfectly pure vegetable glycerin, and trituration and separation. Subcutaneous administration had appeared irritating and useless. A strict regimen must be observed, especially including avoidance of alcohol. It was stated that some of the results have been encouraging, pain being relieved, the general health improved, and the progress of the disease retarded. To an unprejudiced mind it would appear that such results as have been obtained may reasonably be attributed to suggestion, pure and simple. There is no reason to believe that any antidotal action is secured in the manner described. In fact, evidence is yet wanting that an antitoxin to carcinoma exists, but granting that it does, it would be sought when immunity and not infection is present. We know little of such immunity except that which so many of us exhibit in exemption from the disease, but of the significance and the potency thereof nothing can be said in the absence of knowledge of the exciting causes. The attitude of prophet is a thankless if not a precarious one, but we fear that not much can be hoped for from this latest suggestion in the therapeutics of carcinoma, which unfortunately carries with it the danger that hope of recovery without operation may be held out in some instances until it has become too late for the successful result that operation alone is capable of accomplishing.

HOSPITAL ABUSE.

The question of abuse of hospital privileges is one that has agitated the medical profession for a long time, and it can not be settled on *ordinary* business lines. Of all pursuits, that of medicine is the only one that is ever willing and ready to give its services gratuitously when needed by those unable to pay. There is, therefore, all the greater reason why it should be protected from imposition. So general has the use of the privileges extended by hospitals become that what has been cordially granted the public as a charity and an act of philanthropy has come to be viewed by a portion of that same public as a right to be demanded. There is an impression among a portion of the community that the services of hospital physicians are paid for, and therefore that ability to pay professional fees need be no moral bar to application for free treatment. It is probable, on the contrary, that in addition to not being remunerated for this service, many honorable and competent physicians daily visit and treat more patients from whom they receive no fee than patients who pay for the service rendered. It seems likely that at least a considerable number of those who receive free treatment in hospitals could pay their professional attendants. This is wrong, but the remedy can come with ill grace from the medical profession, for the practice of medicine is not a business in the ordinary sense of the word, and medical men, it seems, can not organize labor unions and issue black-lists and the like. The general public must come to a realization of the injustice of the situation and itself take the steps to secure and apply the proper remedy. The simplest corrective measure would be the interrogation of every applicant for hospital treatment as to his ability to pay for the services of a physician, and we have little doubt that it will be found that, after all, the sense of right and of pride of the community will be reached when it understands that it has been asking and receiving considerable to which it has in no way been entitled. In this connection the language of Dr. Weir Mitchell, in an address delivered recently at the opening of the Thomas Hoge Ward[1] of the Presbyterian Hospital, Philadelphia, is not inopportune as illustrating another phase of this important subject. Among other things Dr. Mitchell said: "All hospitals should be so managed that no man or woman should be allowed to come in and accept what the hospital can give without being questioned as to their being able to give something toward what they are to get. If a man can pay $1, $2 or $3 a week without distressing his future, he should be asked to do it. The present method is robbing the community of a large portion of its self-respect. A large proportion of the dispensary service of our great hospitals is dispensed with entirely too lavish a hand."

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[1] Lancet, Nov. 25, 1899, p. 1433.

[1] Journal, Dec. 7, 1899, p. 1502.

Medical News.

The net receipts from the Winona (Minn.) Hospital bazaar, recently held, were over $1000.

Two sanatoria for tuberculosis are planned in Spain, one at Porto Coeli and another in the beautiful Malaga Mountains.

The Colonial Office of the British Government has at last given official recognition to the Liverpool School of Tropical Medicine.

Two physicians in Frankfort, Ind., have been prosecuted for failure to file birth returns in accordance with the vital-statistics law. One was fined $18.80, and the other was discharged on his oath that he had filed the required report, and had sent it in by mail.

At a meeting in Indianapolis, Ind., December 14, the State Board of Medical Registration and Examination adopted a resolution providing that an applicant before the Board, from another state, shall not be granted a license on terms more lenient than the rules of the state from which he comes.

The latest statistics confirm the "stagnation of the French population." For the last ten years the excess of births over deaths has only been 0.74 per 1000 inhabitants, while in the ten years preceding, it was 2 per 1000. These figures are even more unfavorable when it is considered that the number of deaths has materially decreased during this last decade.

Recently the Journal referred to a divorce suit on the grounds that one of the parties was a believer in "Christian Science," and so certain medical attention was not secured when needed. A similar case has been reported during the past week from Clinton, Mass., where the wife was the believer in this doctrine. She sued for $1,000 and separate maintenance. The judge refused alimony and placed the children in the custody of the father.

Circular letters have been addressed to Massachusetts physicians by the State Board of Health calling for information as to the histories of cancer cases, instances of supposed infection, cases due to heredity, etc. By this means it is hoped to determine definitely whether there is an actual increase in the cases of cancer and also something in regard to the nature of the disease.

Fraudulent Advertising.—The *Berliner Aertze Cor.* relates that a local physician was recently sued for damages by a firm that had sent him bottles of a new "universal remedy," begging him to try it in his practice. No formula was enclosed. He returned it and wrote on a postal, requesting the firm not to send him anything more of the kind as he considered it fraudulent advertising. The lower courts sentenced him to pay ten marks damages, but the higher court acquitted him.

Injections for the Plague.—Baccelli's intravenous injections of sublimate in the treatment of general infections, such as syphilis, erysipelas, anthrax, puerperal fever and cerebrospinal forms of influenza, have proved so successful that he has suggested applying this method to the treatment of the plague, but had no opportunity to test it in Rome. Professor Terni of Messina followed his directions and found that animals inoculated with bubonic plague were invariably cured by these injections. The *Progress Médical* announces that Terni has left for Portugal, full of enthusiasm and hope in this new treatment of the plague.

Practice in France.—The French authorities decreed, last July, that the diploma of "letters and philosophy" was no longer indispensable for admission to the medical colleges and the acquirement of the right to practice medicine in France. Presentation of the four certificates of upper class studies in physics, chemistry, botany and zoölogy or general physiology is all that is required. The Journal commented on this lowering of the standard at the time. The *Journal Officiel* now announces that this measure only applies to native students, and that foreign students admitted without the diploma of letters and philosophy are not entitled to the same privileges conceded to the holders of the French "scientific" diploma.

Origin of Plague at Santos.—The delay of the Portuguese authorities in announcing the presence of the plague at Oporto is responsible beyond the question of a doubt for the outbreak of the plague at Santos in Brazil. A number of mild cases of a suspicious disease were reported to the authorities of Santos by physicians, August 18, as suspicious, but as bacteriologic tests were negative, and as no source of contagion was evident, the cases were diagnosed as yellow fever, pernicious attacks with ganglionary infarcts or mere adenitis. Then came the announcement that there had been plague at Oporto since July, and it was recalled that sixteen vessels had arrived at Santos from Leixoes, a port within six kilometers of Oporto and closely connected by railway, between July 4 and August 14, and that there had been great mortality among the rats during the latter part of July. The bacteriologic tests of suspicious cases at Santos revealed the plague, October 18, when it was at once officially announced.

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[1] Journal, December 16, p. 1562.

New York City.

As the result of a collision between an electric car and an ambulance belonging to Harlem Hospital, two physicians, the driver and a patient are suffering from severe injuries. The ambulance was demolished.

Philadelphia.

The J. B. Lippincott Co., whose entire plant, except perhaps the plates, was recently destroyed by fire, at once opened offices at 624 Chestnut Street, this city, and arrangements are being made for a new manufacturing building, to be occupied during the reconstruction of their former premises.

Baltimore.

A motion was made in the supreme court, on the 18th, for a new trial in the case of Dr. George C. Worthington, convicted October 12 for causing a death by criminal operation.

There were 181 deaths in this city last week, the rate per 1000 being: white, 15.61; colored, 28; average 17.39. The principal causes were: Consumption, 23; pneumonia, 18; diphtheria, 12; diseases of kidneys, 12; congestion of brain, 10; typhoid fever, 3.

Los Angeles, Cal.

HEALTH STATISTICS.

According to figures from the health officer, during the year there were 1641 deaths, or a mortality rate of 15.93 per 1000 inhabitants, using as a basis for calculation a population of 103,000. This is an increase of 40 deaths for the year over last year's total. Of these deaths, 256 occurred in the various hospitals; 189 in the County Hospital, which received patients from the entire county. There were 33 deaths from suicide during the year, 25 males and 8 females; 21 natives of the United States, 11 foreign born, one Mongolian and one African. Deaths of children under 1 year of age numbered 182, being 17 less for this age than last year. The causes of death were: specific infectious diseases, 287; diseases of the digestive system, 137; of the respiratory system, 447; of the nervous system, 131; of the circulatory system, 163; of the genito-urinary, 113; constitutional diseases, 127; violence and accidents, 104; miscellaneous diseases, 132. Of the 1641 deaths reported, 279 were natives of this city, and 150 of the three Pacific Coast states outside of Los Angeles, leaving 1212 from other parts; 1136 had lived here less than ten years. There were 289 deaths from pulmonary consumption, divided as follows: natives of Los Angeles, 13; natives of Pacific Coast states outside of this city, 19; from other parts, 257. Of the 289 persons, 206 had lived here less than ten years. Concerning smallpox, since Dec. 1, 1898, there have been in the city, 119 cases; 2 were reported prior to the above date, during 1898. There were 64 cases of variola and 55 of varioloid; 59 had been vaccinated and 60 had not been. Some of those reported vaccinated were not successfully vaccinated. There were 22 deaths, 7 being of the most severe form of hemorrhagic smallpox. No death occurred where the person had been successfully vaccinated previous to smallpox infection; 51 patients were quarantined and treated in their own residences, numbering 22 houses; 67 were removed to the smallpox hospital from 63 houses. The disease was introduced by tramps from Danby and Arizona and New Mexico. The chief cause of the spread was the delay in reporting one case in the southern portion of the city, and the concealment of another in the most densely populated portion. Of other infectious diseases, cases were reported as follows: diphtheria, 287; scarlet fever, 64; typhoid fever, 265; measles, 339. There were 34 deaths from diphtheria during the year.

New Orleans.

INTRASPINAL COCAINIZATION

The Bier method of intraspinal cocainization was applied successfully in the Charity Hospital, here, on December 18, by Dr. A. Matas, assisted by Drs. F. A. Larue and H. B. Gessner, and Mr. Allen, interne. The patient, an Argentine *mestizo* of 32 years, suffering from internal hemorrhoids, ulcerated, bleeding and excessively tender, had albumin and casts in the urine. A needle having been introduced in the median line between the fifth lumbar vertebra and the sacrum, the entrance of the needle into the canal was readily confirmed by the escape of cerebrospinal fluid. Two doses of 1 per cent. normal salt solution of cocain hydrochlorate, each 1 c.c., were injected five minutes apart. Nineteen minutes after the first, an internal hemorrhoid was clamped, a groove made around it with scissors, and a ligature applied, and, following this, the distal portion was snipped off; all of this absolutely without any pain. Another hemorrhoid was removed later. Anesthesia of the lower extremities, the penis, scrotum, and perineum, the abdominal wall, the chest and, in fact, the entire body below the neck, lessening in a degree, however, from below up, was subsequently observed. The procedure was followed by the usual chill, fever to 103.4 F., nausea, occipital headache. Prof. Matas had previously—November 10—applied the method in the case of a colored man, aged 23 years, suffering from a tuberculous knee-joint; 1 c.c. of a solution of eucain B, in two doses, was injected through a needle between the first and second lumbar vertebræ. Although the entrance into the canal was confirmed by the escape of cerebrospinal fluid, followed by the usual systemic reaction, no anesthesia was produced, the quantity of eucain being perhaps insufficient.

Minneapolis, Minn.

Dr. James Dunn is convalescing, after a month's illness from a septic infection.

Dr. A. A. Law, who recently returned from the Philippines with the Thirteenth Minnesota, was married last week to Miss Helen Lougee, of this city.

The medical department of the University of Minnesota, notwithstanding its commodious buildings, is full to overflowing and the regents are asking the medical faculty how to reduce the number of students. Lengthening the course to four years, and elevating the standard of admission have been accompanied by an increased attendance. A new anatomic building has just been completed, and will be in charge of Prof. Chas. A. Erdmann, who has been recommended to the regents by the medical faculty, as successor to the late Professor Hendricks. This building is the most complete of its kind in the country, and will be devoted exclusively to the teaching of anatomy. A new clinical building has also just been finished, and is in charge of Prof. James E. Moore. The one will be devoted exclusively to the teaching of clinical medicine and surgery.

Atlanta, Ga.

Dr. Charles Boynton was recently married to Miss Pattillo, of Decatur, Ga.

Atlanta has recently had a severe scare on the milk question. A number were lately made very ill, and all were found to be taking milk from the same dairyman. A specimen examined revealed tyrotoxicon. There is now on foot an endeavor to establish a central station where all the milk will be examined before it can be distributed.

The present Board of Health, which consists of both physicians and laymen, is trying to get established the position of medical health officer for the city, the incumbent to have supervision over all contagious and infectious diseases, and charge of a central bacteriologic and chemical laboratory.

LEGISLATION IN GEORGIA

The osteopathy bill passed almost unanimously, at the recent session of the legislature, even in the face of unanimous protestations from the physicians of the state. One member, in support of the bill, said that if this system of treatment had been in vogue at the time President Garfield was shot, the bullet would have been found and extracted, thus saving our President from an untimely grave. Georgia is now "wide open" to all fads and sects and the legitimate physician will no longer find a decent field within the bounds of the "Empire State of the South." Another bill introduced by the representative from Atlanta, at the request of all the physicians of the city, was to enact a law compelling all medical colleges in the state to adopt a four years' curriculum. The bill met with instant defeat. The Atlanta College of Physicians and Surgeons, however, will almost certain to adopt the curriculum next year. [As we go to press, we learn the governor has vetoed the osteopathy bill.—Ed.]

Correspondence.

Shall the Scope of the Pharmacopeia be Increased?

Boston, Dec. 19, 1899.

To the Editor: Among the many suggestions and remarks which the approach of the time of calling the convention for revising the Pharmacopeia is eliciting, the query why the sale of this book is so small among physicians often appears, and why they are so little acquainted with its contents and its merits. That such a condition exists is undoubted, but it is also true that there is a reason for it, and it seems to me, without yielding to anyone in my respect for the book in the position it is intended to fill, that the reason is a good one.

Dr. Long (Journal, Dec. 9, 1899), in an article which tends in the same direction as my own thoughts, asks whether we—physicians—"are not shirking our duty when we allow pharmacal influence to predominate in the convention which directs its issue?" To this I would answer that, if medical colleges and societies send 85 out of 190 delegates, as they did to the convention of 1890, medical interests are fully represented. The details of the pharmacopeia are properly in the hands of pharmacists.

It is true, as Dr. Long says, that the Pharmacopeia originated in the needs of physicians, but that was at a time when a very large proportion were of necessity their own pharmacists. A well-known Boston doctor, whose practice was largely among the wealthier classes, used to say that there was no use in a physician pretending to be anything else; he always would smell of rhubarb.

But now the amount of information which the up-to-date practitioner is absolutely obliged to acquire has so enormously increased, without, so far as any one can see, his capacity having been correspondingly enlarged, that he must cut off all that does not necessarily come within his province. On the other hand, the processes and scope of pharmacy have been so specialized that the practitioner can have this part of his work done so much better than he can do it if he had the time, that the separation has taken place with great mutual advantage. The physician asks the pharmacist for a drug and expects to have him provide it pure, but probably not once in ten thousand times does he apply the pharmacopeial tests to see whether it is really so. It might have been premised that the pecuniary success of the edition of 1890 has been such that there is no financial reason for desiring to increase the sale of the next one, except that it could perhaps be afforded a little cheaper. The receipts have provided for much research in preparation for the coming revision and there is still a considerable balance unappropriated.

But it is desirable, in the interests of the medical profession, that its members should become acquainted with the official and authoritative statement of their pharmacologic instruments, and that they should be able to look to some disinterested source for information on the enormous number of new remedies—good, bad, and indifferent, honest and fraudulent—which are constantly thrust before them in advertisements and specimens, and in regard to which it is almost impossible that they should independently inform themselves. Information there is, if they have the disposition and the time to look for it, but each is much more likely to take what is offered him, buried as the truth may be among proprietary preparations and garbled pseudo-medical literature. The implicit confidence in the ignorance and credulity of the medical profession in regard to drugs, displayed by such hosts of advertisers, and evidently grounded on long experience, is a scandal and disgrace, a part of which might perhaps be averted by familiarity with a work in which no self-interest can be allowed to appear.

There are two reasons why the Pharmacopeia is comparatively unknown to the physician. The first is that it contains so much that he does not want and can not use; the second, that it does not contain the information for which he most frequently consults a book of reference, i. e., doses and new remedies, or sometimes the best forms of administration.

The pharmacologic ground which the physician wishes to traverse is now covered by two sets of books, among which are several of which American medicine and pharmacy may well be proud. Of these, the two dispensatories are the most comprehensive, and against them there is nothing to be urged except size and consequent expense. But the man who buys one of these has but little use for the pharmacopeia, which is practically included in them. The numerous and excellent works on therapeutics usually contain enough of pharmaceutic detail for ordinary use by the practitioner. All of these discuss non-official remedies.

It is with such works as these that the next Pharmacopeia must in some way compete, if it is to have any extensive sale among physicians, and the question at once arises whether it is for the interests of medicine and pharmacy to undertake this new responsibility or leave it where it now is, in private hands. There is certainly room for more than one opinion on this point. In regard to doses, it would not be advisable for the Pharmacopeia to state them in any such authoritative and absolute way as to relieve the physician of his full responsibility in any individual case, but usual or average doses might very promptly be given, and a statement of the amount of active principle contained in different preparations of the same drug. There are many most useful drugs now in the Pharmacopeia, whose chemical constitution is so illy defined that a short statement of the safe or proper dose is really nothing but a judicious summary of clinical experience. Such, for instance, is digitalis. Even more is this true of some of the most important and useful additions to the medical armamentarium; for instance, the whole group of toxins.

It may be said that if the Pharmacopeia once enters the wide and unsurveyed territory of the most recent investigation and discovery, it will at last find itself in a swamp of speculation, and standing on the same level with all sorts of absurdities and frauds. But it is to be remembered that medical practitioners and pharmacists are already forced to enter this region, whether they like it or not, and will most heartily welcome even a feeble and uncertain light of science which is at least distinguishable from a mere will o' the wisp, by honesty of purpose and impartiality.

A work occupying the position of the Pharmacopeia and possessing the qualities of disinterestedness, impartiality and freedom from individual prejudice, for which the method of its preparation and publication would be a guarantee, must be of the highest value to the medical profession and would meet with a warm reception therefrom.

Some simple additions to the book as at present arranged would not materially increase its size or cost, and could be made to cover the matter of dosage, but a consideration of non-official medicines would be another matter.

Would it not be possible to publish, under the auspices of the convention, two editions, to be called respectively the physicians' and the pharmacists' editions, using the same arrangement and the same text so far as appropriate to each, but having in the physicians' an appendix containing, in an abridgment, all that is positively known of unofficial drugs? For this appendix room would be made by the omission of a large amount of detail unnecessary and cumbersome for the physician.

In the pharmacists' edition, it might be unnecessary to put many articles which are not, and probably for many years will not be, subject to exact chemical and pharmaceutic tests of purity. Still, as most of these are now to a great extent for sale in the shops, it seems more practical for the authority in use by the pharmacist to take cognizance of them, even if unable to test and guarantee their purity and efficiency. Such an edition would be really an abridged dispensatory, and would be unnecesary for those who have the larger one. On the other hand, it could be sold at a much smaller price and could be more easily remodeled at short intervals than the more elaborate works.

In conclusion, although I am unworthily a member of the committee of revision, this letter embodies the views of no one except myself, and is intended as a suggestion rather than as an argument. Robert Edes, M.D.

The Innocuousness of the Specialist.

Cleveland, Ohio, Dec. 19, 1899.

To the Editor: While it is perhaps natural that in general medical societies there has grown up a tradition that the chief offices shall be held by a general practitioner or a general surgeon, there is room for doubt as to the expediency of adhering too rigidly to such a rule. Certainly it may be permitted a general practician to advocate that occasionally an office of some consequence should be bestowed on a specialist. This would tend to broaden the professional horizon and to unify the different existing branches of medicine. It must not be overlooked that the specialists, because of their specialism, are none the less members of the great profession of medicine. It is proper that they should not be permitted to monopolize the offices, for the reason that they appeal for support to the profession itself; but entirely shutting them out from the classes from which society officers are chosen infallibly tends to narrow the field of medicine. Nothing less than absolute catholicity may be practiced by the most liberal guild that graces modern civilization. To at intervals place a specialist in high office would have a decided educating influence. The specialists as a class are known to be quite harmless, and the timid need have no fear of the result of the innovation. Both in our small local and large state and national organizations we can afford to be a little more liberal in this respect. Indeed, in some conspicuous instances, and in certain localities the new custom here advocated has already taken root, and the fruit has not been unpalatable.

P. Maxwell Foshay, M.D.

Deaths and Obituaries.

E. R. Axtell, M.D., editor of the *Colorado Medical Journal*, died December 14, after a short illness, a victim to septic poisoning following an autopsy. At a joint meeting of the Denver and Arapahoe Medical Society, the Denver Clinical and Pathological Society, the members of the medical and surgical staffs of the Arapahoe County and St. Luke's hospitals, the following resolutions were adopted:

Whereas, Dr. E. R. Axtell has endeared himself to the physicians of Denver by his clean life, his gentlemanly and courteous manners and his devotion to duty and scientific medicines; and

Whereas, He has met with an untimely death before he had reached the zenith of his power and at a time when success was beginning to crown his efforts; and

Whereas, His death was the result of an infected wound received in the performance of his duty, we recognize in this sacrifice the highest ideal of man and hero; therefore

Resolved, That we engrave upon our records these resolutions as a slight token of our highest esteem, and forward to Mrs. Axtell our expression of deepest sympathy, with the assurance that "he who lives in the hearts of others is not dead."

J. T. Eskridge,
Leonard Freeman,
William C. Bane,
F. E. Waxham,
F. H. McNaught,
J. M. Blaine,
Joint Committee.

Dec. 14. 1899.

The Doctor was born in Washington, Ind., thirty-three years ago. He received his degree in medicine in 1888, and went to Denver in 1889, as an interne at St. Luke's Hospital. He was afterward, for eighteen months, superintendent of the Hospital. From the beginning of his career in Denver he was intimately associated with the teaching of medicine in the medical department of the University of Denver, for which institution he has ever had a large interest and a warm affection. He was for four years pathologist of the Arapahoe County and St. Luke's hospitals, and was also connected with the Colorado Cottage Home and State Home for Dependent Children. For the last few years he has been editor and owner of the *Colorado Medical Journal*, which has vastly improved through his energetic efforts. At various times he has been secretary of both the local and state medical societies, and was for about eight years the secretary and treasurer of the faculty of the medical department of the University of Denver. He long cherished an ambition for an appointment on the medical staff of the Arapahoe County Hospital, though he was already its pathologist, and he had just entered on his first service on this staff, when, in his capacity as pathologist, he conducted an autopsy to which we must attribute his untimely death.

"His life and death have most beautifully and perfectly exemplified the feelings, purpose and motives actuating the highest type of physician."

RESOLUTION ON THE DEATH OF DR. CHASE.

Concerning the recent death of Edward W. Chase, M.D., Omaha, Neb., the Omaha Medical Society has adopted the following:

Whereas, Dr. Edward W. Chase has, by death, been removed from his association with this Society; therefore

Resolved, That we, the members of the Omaha Medical Society, entertaining the highest regard for his ability as a physician and the estimable personal qualities with which he was abundantly endowed, deeply regret his death, so early in life, and feel that we have lost a talented companion, and that the society has been deprived of the aid of one who always performed his duty with consummate ability and conscientiousness.

Miscellany.

X-Ray in Medical Diagnosis.—In Williams' article on this subject, the last three lines of the foot-note on page 1209 (Journal, November 11), should read: "To prevent the marks from being rubbed out when the skin is washed with an antiseptic for operation, a stick of *nitrate of silver* diluted with nitrate of potassium may be used instead of the crayon, or the ordinary marks may be retouched with tincture of iodin."

Electric Thermophore for Local Application of Heat.—S. Salaghi describes, in the *Ztft. f. Diet. u. Phys. Therap.*, iii, 5, the principles of the local application of heat, and states that excessive heat is tempered by the perspiration, so that even 100 to 140 C. does not actually represent a much higher temperature for the part than a lower degree with less perspiration. He therefore considers his electric thermophore fully as effective as the complicated apparatuses generating extremely high temperatures. It is very simple, merely a coil of wire in a folded asbestos cloth, connected with any incandescent light service—light, simple, neat, convenient.

Story of a Comma Bacillus.—In that book of stories of the sea, by Mr. Morgan Robertson, entitled "Where Angels Fear to Tread," there is one which must stand out as a source of perpetual delight to physicians. It has been aptly named "The Battle of the Monsters," and might easily pass under the subtitle, "An Extract From the Life of a Spirillum of Cholera." The tale begins with the following clinical note: "John Anderson, Ward 3, Room 6. August 3. Arrived at hospital in extreme mental distress, having been bitten on wrist three hours previously by dog known to have been rabid. Large, strong man, full-blooded and well-nourished. Sanguine temperament. Pulse and temperature higher than normal, due to excitement. Cauterized wound at once (2 p.m.), and inoculated with antitoxin. As patient admits having recently escaped, by swimming ashore, from lately arrived cholera ship, now at quarantine, he has been isolated and clothing disinfected. Watch for symptoms of cholera. August 3, 6 p.m.: Microscopic examination of blood corroborative of Metschnikoff's theory of fighting leucocytes. White corpuscles gorged with bacteria." The hero, a comma bacillus of Koch, is compelled to witness a naval battle between the assumed germs of rabies and the blood-corpuscles. The enemy, in the persons of the bacteria of hydrophobia, have already killed many of the red corpuscles when the leucocytes bear down on the scene like line-of-battle ships, and in their turn the victors are put to rout. No quarter is given on either side, nothing save death seeming to satisfy the rapacity of the combatants. In spite of the fact that this unique encounter occurs within a blood-vessel, which might be likened to a river, the salty master-hand of the author compels you to believe that you are in the midst of a monster naval conflict. When the smoke of war has blown over and the leucocytes are resting serenely on their laurels, a delicious bit of comedy comes to relieve the somber scene. The amazed onlooker left his point of vantage and concealment, and sailed within hail of the conquerers, rudely breaking in on their scientific conversation. The magic name of Koch had attracted as attention and aroused his egotism. "Koch," he answered eagerly and proudly. "Oh, I know Koch; I've met him. And I know about microscopes, too. Why, Koch had me under his microscope once. He discovered my family, and named us the comma bacilli—the spirilli of Asiatic cholera." They backed water in silent horror and then closed in on him. Nothwithstanding his pleas for mercy, he was ruthlessly slaughtered. The concluding clinical note, *in re* John Anderson, August 18, [illegible]: "A period of incubation for both cholera and hydrophobia has passed and no initial symptoms of either disease have been noticed, patient is this day discharged, cured." Mr. Robertson has indeed well shown that, give him but a taste of salt air as a tonic, he can study human and bacteria nature, and tell about it afterward.

Parturition Among the Eskimos.—Enlightenment and refinement among the people of a civilized and highly cultured nation have also attendant evils. It has beeen said that the higher the development of the human system, the more sensitive it becomes toward pain. Can it be that this rule holds good in the resistance to shock? Does the higher development of the system lessen its resistance toward the invasion of septic organisms? A study of parturition among people of a less favored region than the temperate zone offers some evidence that those who live in the latter suffer from invasion of pus germs to a greater extent than those of the arctic region. Gleaves, in a recent article in the *Pacific Medical Journal*, has written of this subject, having had the opportunity of being in attendance during an Eskimo labor. He writes that it is seldom that a "cablona" (white man) doctor is permitted to witness this trying ordeal. It is the custom among Eskimos not to be confined in *igloo* or house. The woman must go into the woods or brush, alone—no one being allowed to be present—and remain there with no food except a piece of dried fish for "five sleeps," when she is allowed to return to the *igloo*. Then she and her husband take a bath and change their undergarments. In the instance cited, Gleaves states that the birth of the child occurred in Alaska during January, when the temperature ranged from 30 to 40 degrees below zero, and while the mother, when found, was secreted in the brush in a snow pit, oval in shape, about two feet deep and six across. The only warmth obtained was from a smoky fire made with twigs. She lay on a reindeer skin, with no covering of any kind. "On my arrival at the parturient field I found the woman in labor on her knees, with buttocks resting on her heels, and having severe bearing down pains which came faster and faster and more severe until almost continuous when the bag of waters ruptured. Hemorrhage occurred, but she soon rallied again and expelled the placenta, whereupon she took a piece of sinew which had been prepared from the hock of a caribou, and ligated the cord as close to the umbilicus as possible, then severed the cord close to the ligature with a piece of serrated flint. She washed the babe in the snow, although it rebelled by kicking and squalling at such a cold reception. The woman wore a belt or a piece of thong to confine her 'parka' around the waist, and to it was fastened by short deer-skin thongs, bits of ivory, buttons, leather bags in which she kept tobacco, matches and other small articles of value. After the snow bath she placed her babe underneath the folds of her 'parka,' which is the usual place of the young Eskimo, and proceeded in a bent over position with a staff in hand, stepping slowly and laboriously, leaving a trail of blood, to another snow pit about fifty feet away, which had been prepared. She would not remain any length of time at the place where the babe was born for it is considered unclean." The mortality of both mothers and babes is said to compare favorably with our own death-rate.

Remarks on Jacksonian Epilepsy.—In *Brain* (London, December), J. S. McKendrick discusses the history, physiology and pathology of Jacksonian epilepsy, and describes a case of so-called toxic epilepsy. The special interest recently attached to the study of the so-called toxic cases justifies us in quoting the author quite fully. The patient, Mrs. E. McG., aged [illegible], was admitted to the Glasgow Western Infirmary, complaining of "fits." She was free from nervous disorders until suddenly, one year previous to admission, she lost consciousness and had a severe epileptic fit. The second occurred six months afterward. Subsequent seizures were frequent, lasting fifteen to twenty minutes, and these early ones always produced unconsciousness. Three months ago, after one of these attacks, she remained unconscious for five days, during which time there occurred about twenty fits; on recovering consciousness there was a noticeable weakness (paresis) of the right arm and leg. She remained free from the fits for some six weeks, when a seizure of a *different kind* developed, which recurred almost every ten minutes, corresponding almost entirely with those occurring throughout the rest of life. There was no loss of consciousness, but during the period it lasted and for some time afterward, there was complete loss of speech, strange sensations in the throat, the head drawn over to the right side; the right arm and leg were thrown into violent, jerking movements, the duration two to three minutes; the general health was good, and the paresis, which developed some months before, cleared up. The limbs of the right side were as easily controlled as those of the left.

Later the patient became worse, the convulsions were unilateral, confined to the right side, although in one fit the muscles of the face and arm of the right side seemed to participate in the spasm. The eyes first rotated to the right, then the head rotated to the same side, with slight clonic movements of the muscles. The right arm was next affected, and lastly the right leg. Consciousness was present, and aphasia. Before death, a distinct paralysis of the muscles of the face, arm and leg on the right side developed, also complete anesthesia of the right side of the body and partial of the left arm. The post-mortem of the brain disclosed nothing abnormal. The kidneys *disclosed a cortical nephritis!* In a critical discussion of the symptoms, McKendrick explains the conjugate deviation of the eyes and head to the right side by supposing an irritation of that area which lies immediately in front of the truly motor zone, and as a result the nucleus of the sixth nerve of the right side was irritated, which produced contraction of the right external rectus, directly and indirectly, through the communicating fibers from the nucleus to the third nerve and spinal accessory of the opposite side, produced contraction of the left internal rectus, and left sternomastoid, although the right inferior oblique muscle also probably contracted. He considers this area was the first to become irritated, and, owing to its physiologic situation, this fact accounted for the convulsive seizures that depended on irritation of the neighboring areas for the face and upper extremity. The hemiplegia occurred in an irregular fashion and with suddenness. It is improbable that there were actual hemorrhages in this case, but it is likely that after the more severe convulsive seizures, the vessels in the neighborhood of the left motor area became contracted, and a congestion resulted, allowing of a greater disturbance to the nutrition of these motor nerve-cells. The aphasia he considers to have been a true aphasia, the result of severe changes in the speech-producing center on the left side of the brain. Loss of consciousness is common to this form of epilepsy, but the *disturbances of sensation*, the right-sided analgesia are of interest in this case in the absence of syphilitic history; it probably depended on certain changes that had taken place in the communicating fibers that connect the tactile centers with those of the motor region.

The symptoms were in harmony with our knowledge of unilateral convulsions depending on an irritation starting at a definite point in the motor area and spreading from that region to the parts around in definite order.

The irritation started in the area for lateral deviation of the eyes and head, passed across to the center for the face, interfering with the communicating fibers that had to do with tactile sensibility and the speech-producing center, then passed up the fissure of Rolando to the center for the arm, then for the leg.

Further, discussing the two possible theories as to the real cause of these convulsive seizures, viz., chemical (toxic) and vasomotor, he inclines strongly to the former, and concludes by saying that although we might possibly have had a *reflex* Jacksonian epilepsy in this instance, from the cessation of the earlier series of fits, and the occurrence of an acute nephritis, and consequent absorption of the toxic urinary elements with the blood, *a toxic Jacksonian epilepsy* occurred, depending on the action of these elements on the old standing susceptible left motor area of the brain.

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